HCD-FR1/FR8/FR9

SERVICE MANUAL

Ver. 1.7 2005.07

US Model
HCD-FR1/FR8/FR9

Canadian Model
HCD-FR1

PHOTO: HCD-FR1

HCD-FR1/FR8/FR9 are the amplifier, DVD/ SACD and tuner section in DAV-FR1/FR8/FR9.

Model Name Using Similar Mechanism	NEW
Mechanism Type	CDM69-DVBU16
Optical Pick-up Name	DBU-1

SPECIFICATIONS

AUDIO POWER SPECIFICATIONS POWER OUTPUT AND TOTAL HARMONIC DISTORTION:

With 4 ohm loads, both channels driven, from 20 – 20,000 Hz; rated 75 watts per channel minimum RMS power, with no more than 0.7 % total harmonic distortion. (from 250 milli watts to rated output)

Amplifier section (HCD-FR1)

Surround mode (reference) music power output	Front: 110 W + 110 W (with SS-TS20) Center*: 110 W (with SS-CT44) Surround*: 110 W + 110W (with SS-TS20) Subwoofer*: 100 W × 2 (with SS-WS12)

Amplifier section (HCD-FR8)

Surround mode (reference) music power output	Front: 114 W + 114 W (with SS-TS21) Center*: 114 W (with SS-CT33) Surround*: 114 W + 114W (with SS-TS20) Subwoofer*: 115 W × 2 (with SS-WS12)

Amplifier section (HCD-FR9)

Surround mode (reference) music power output	Front: 114 W + 114 W (with SS-TS21) Center*: 114 W (with SS-CT33) Surround*: 114 W + 114W (with SS-TS21) Subwoofer*: 115 W × 2 (with SS-WS12)

* *Depending on the sound field settings and the source, there may be no sound output.*

Inputs	VIDEO/SAT: Sensitivity: 250 mV/ 450 mV Impedance: 50 kilohms
Output	SURROUND BACK Voltage: 2V Impedance: 1 kilohms
Phones	Accepts low-and high-impedance headphones.

Super Audio CD/DVD system

Laser	Semiconductor laser (Super Audio CD/DVD: λ = 650 nm) (CD: λ = 780 nm) Emission duration: continuous
Signal format system	NTSC
Frequency response (at 2 CH STEREO mode)	DVD (PCM): 2 Hz to 22 kHz (±1.0 dB) CD: 2 Hz to 20 kHz (±1.0 dB)
Harmonic distortion	Less than 0.03 %

Tuner section

System	PLL quartz-locked digital synthesizer system
FM tuner section	
Tuning range	87.5 – 108.0 MHz (100 kHz step)
Antenna (aerial)	FM wire antenna (aerial)
Antenna (aerial) terminals	75 ohms, unbalanced
Intermediate frequency	10.7 MHz
AM tuner section	
Tuning range	531 – 1,710 kHz (with the interval set at 9 kHz) 530 – 1,710 kHz (with the interval set at 10 kHz)
Antenna (aerial)	AM loop antenna (aerial)
Intermediate frequency	450 kHz

Video section

Outputs	Video: 1 Vp-p 75 ohms\ S VIDEO: Y: 1 Vp-p 75 ohms C: 0.286 Vp-p 75 ohms COMPONENT: Y: 1 Vp-p 75 ohms P_B/C_B, P_R/C_R: 0.65 Vp-p 75 ohms

General

Power requirements	120 V AC, 60 Hz
Power consumption	120 W
Dimensions (approx.)	430 × 70 × 398 mm (17 × 2 7/8 × 15 3/4 inches) (w/h/d) incl. projecting parts
Mass (approx.)	5.5 kg (12 lb 12 oz)

Design and specifications are subject to change without notice.

SACD/DVD RECEIVER

9-879-011-08
2005G16-1
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Sony Corporation
Audio Group
Published by Sony Engineering Corporation

SONY®

Laser component in this product is capable of emitting radiation exceeding the limit for Class 1.

This appliance is classified as a CLASS 1 LASER product. The CLASS 1 LASER PRODUCT MARKING is located on the rear exterior.

CAUTION
Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

Notes on chip component replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

Flexible Circuit Board Repairing

- Keep the temperature of the soldering iron around 270 °C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

UNLEADED SOLDER

Boards requiring use of unleaded solder are printed with the lead-free mark (LF) indicating the solder contains no lead.
(Caution: Some printed circuit boards may not come printed with the lead free mark due to their particular size)

: LEAD FREE MARK

Unleaded solder has the following characteristics.

- Unleaded solder melts at a temperature about 40 °C higher than ordinary solder.
  Ordinary soldering irons can be used but the iron tip has to be applied to the solder joint for a slightly longer time.
  Soldering irons using a temperature regulator should be set to about 350 °C.
  Caution: The printed pattern (copper foil) may peel away if the heated tip is applied for too long, so be careful!
- Strong viscosity
  Unleaded solder is more viscou-s (sticky, less prone to flow) than ordinary solder so use caution not to let solder bridges occur such as on IC pins, etc.
- Usable with ordinary solder
  It is best to use only unleaded solder but unleaded solder may also be added to ordinary solder.

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety check before releasing the set to the customer:
Check the antenna terminals, metal trim, “metallized” knobs, screws, and all other exposed metal parts for AC leakage.
Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microamperes.). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers’ instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The “limit” indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2 V AC range are suitable. (See Fig. A)

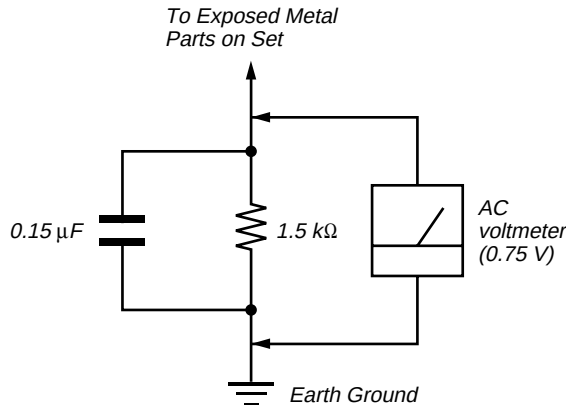

Fig. A. Using an AC voltmeter to check AC leakage.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COM- POSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

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SECTION 1
SERVICING NOTE

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

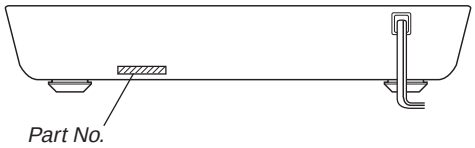
The laser diode in the optical pick-up block may suffer electrostatic break-down because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.
During repair, pay attention to electrostatic break-down and also use the procedure in the printed matter which is included in the repair parts.
The flexible board is easily damaged and should be handled with care.

NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe from more than 30 cm away from the objective lens.

MODEL IDENTIFICATION

– BACK PANEL –

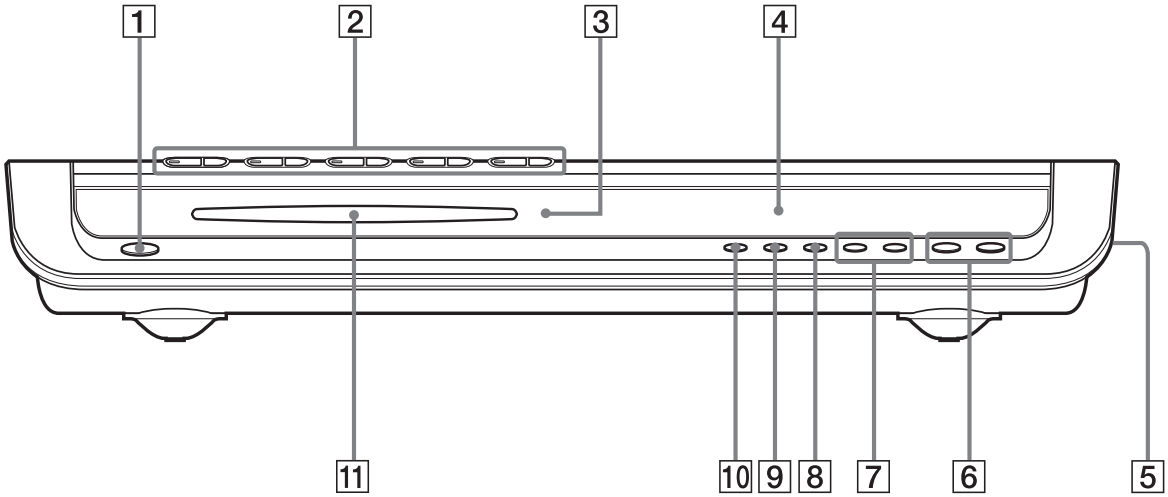


MODEL	Part No.
FR1	4-253-916-0□
FR8	4-253-916-1□
FR9	4-253-916-2□

SECTION 2
GENERAL

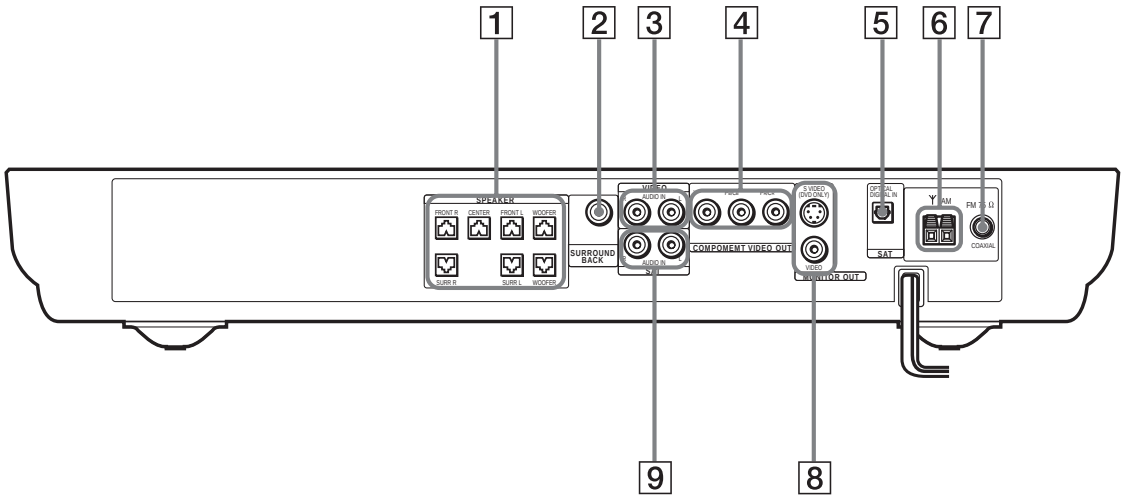
This section is extracted from instruction manual.

Front Panel



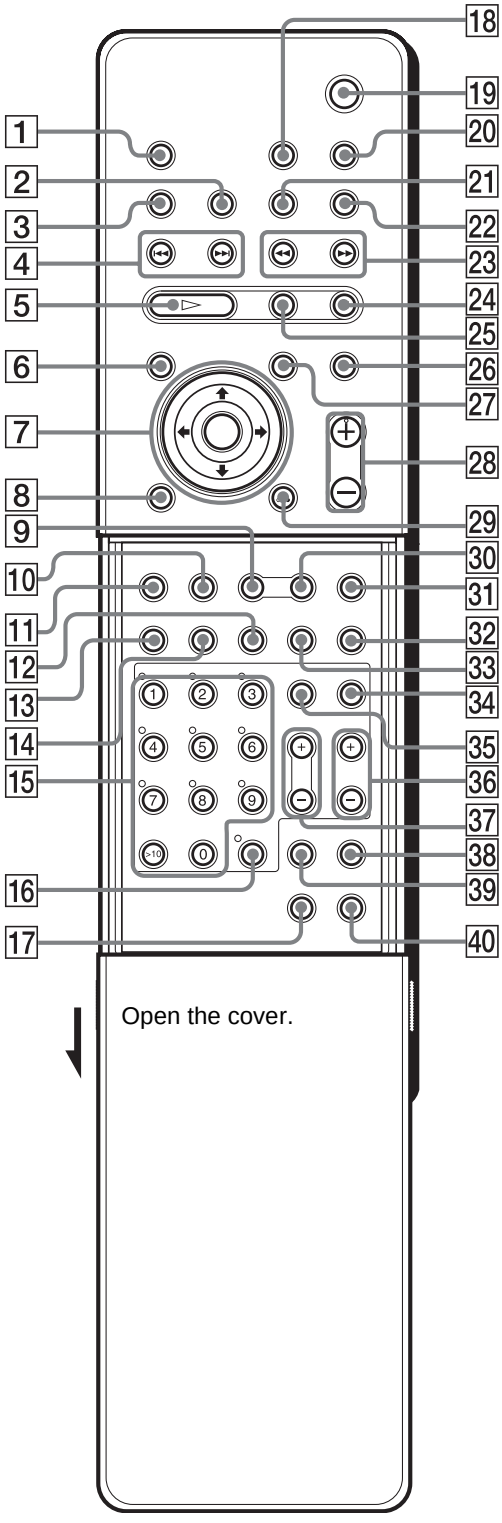
1 **I/⏻ (power) switch/STANDBY indicator (30)**
2 **DISC1-5 ⏏ (eject)/indicators (30)**
3 **(remote sensor) (13)**
4 **Front panel display (98)**
5 **PHONES (on the side of the system) jack (30)**
6 **VOLUME +/– (30, 83)**
7 **I◄◄ /►►I (31, 33)**
8 **■ (stop) (31)**
9 **▷II (play/pause) (30)**
10 **FUNCTION (30, 70, 73)**
11 **Disc slot (30)**

Rear Panel



1 **SPEAKER jacks (15)**
2 **SURROUND BACK jack (19)**
3 **VIDEO AUDIO IN (L/R) jacks (23)**
4 **COMPONENT VIDEO OUT jacks (23)**
5 **SAT OPTICAL DIGITAL IN jack (24)**
6 **AM terminals (21)**
7 **FM 75 ΩCOAXIAL jack (21)**
8 **MONITOR OUT (VIDEO/S VIDEO) jacks (23)**
9 **SAT AUDIO IN (L/R) jacks (23)**

Remote



Note

This remote control glows in the dark. However, before glowing, the remote must be exposed to light for awhile.

1 **DISC SKIP (30, 31)**
2 **DISPLAY (46, 49, 73)**
3 **SLEEP (75)**
4 **I◄◄ /►►I, PRESET –/+ (31, 33, 73, 74)**
5 **▷ (play) (30, 31, 32, 33, 37, 38, 39, 41, 41, 42, 43)**
6 **DVD TOP MENU/ALBUM– (33, 35, 36)**
7 **←/↑/↓/→/ENTER (27, 33, 33, 35, 36, 38, 38, 39, 41, 42, 44, 51, 57, 60, 61, 62, 64, 71, 72, 74, 75, 77, 85)**
8 **DVD DISPLAY (35, 36, 38, 41, 42, 44, 49, 50, 51, 60, 61, 62)**
9 **AUTO FORMAT DIRECT (53, 54)**
10 **DSGX (59)**
11 **DVD SETUP (27, 64, 77)**
12 **SUBTITLE (61)**
13 **AUDIO (51)**
14 **ANGLE (60)**
15 **Number buttons (33, 33, 39, 44, 60, 62, 64, 67, 69)**
16 **ENTER**
17 **TUNER MENU (72, 74)**
18 **TV I/⏻ (on/standby) (67)**
19 **I/⏻ (standby) (27, 30, 72, 73)**
20 **SONY TV DIRECT (69)**
21 **TUNER/BAND (72, 73, 74)**
22 **FUNCTION (27, 30, 70, 73, 74)**
23 **◄◄/►►/◄▮/▮► SLOW, TUNING –/+ (37, 43, 72, 73)**
24 **■ (stop) (31, 32, 33, 62, 73)**
25 **▮▮ (pause) (31)**
26 **MUTING (31)**
27 **DVD MENU/ALBUM+ (33, 35, 36)**
28 **VOL +/– (31, 73)**
29 **↶ RETURN (27, 33, 35, 36, 38, 39, 44, 62, 64, 77)**
30 **MODE (54, 55)**
31 **NIGHT MODE (59)**
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33 **REPEAT (39, 42)**
34 **TV (67, 69)**
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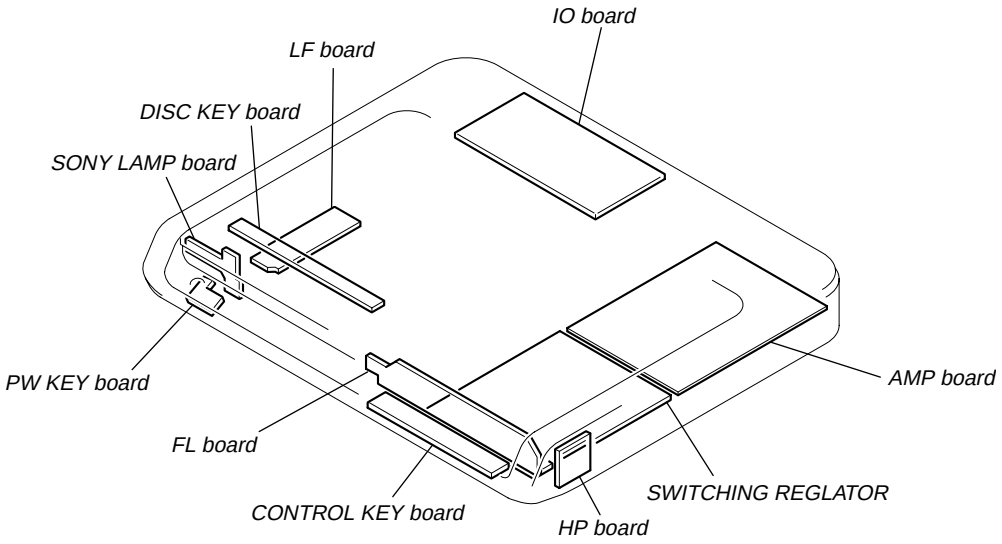
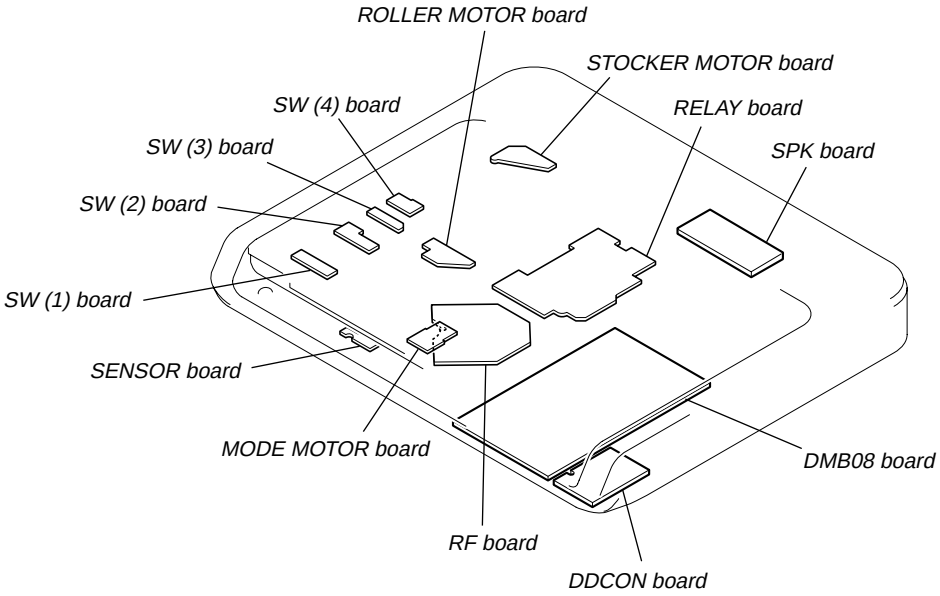
36 **TV CH +/– (67, 69)**
37 **TV VOL +/– (67)**
38 **AMP MENU (57, 71, 75, 85)**
39 **CLEAR (27, 39, 44)**
40 **FM MODE (73)**

SECTION 3
DIAGRAMS

• Circuit Boards Location





THIS NOTE IS COMMON FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS. (In addition to this, the necessary note is printed in each block.)

For schematic diagrams.
Note:

- All capacitors are in µF unless otherwise noted. (p: pF) 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.
- ▭ : panel designation.

Note:	**Note:**
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

- ▬▬ : B+ Line.
- ▬ ▬ ▬ : B– Line.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
- Voltages and waveforms are dc with respect to ground in service mode.
- Waveforms are taken with a oscilloscope.
  Voltage variations may be noted due to normal production tolerances.
  no mark : DVD STOP
- ( ) : CD STOP
- Circled numbers refer to waveforms.
- Signal path.
  - : AUDIO
  - : CD PLAY
  - : DVD PLAY
  - : TUNER
  - : VIDEO
  - : OPTICAL DIGITAL IN
  - : VIDEO IN
  - : CHROMA
  - : Y
  - : COMPONENT VIDEO
  - : AUX IN
  - : SACD PLAY
  - : R, G, B

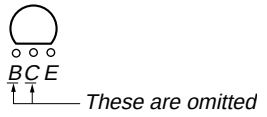
For printed wiring boards.
Note:

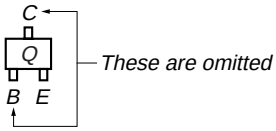
- ○——— : parts extracted from the component side.
- ○ : Through hole.
- ▒▒▒ : Pattern from the side which enables seeing.

(The other layers' patterns are not indicated.)

Caution:	
Pattern face side: (Side A)	Parts on the pattern face side seen from the pattern face are indicated.
Parts face side: (Side B)	Parts on the parts face side seen from the parts face are indicated.

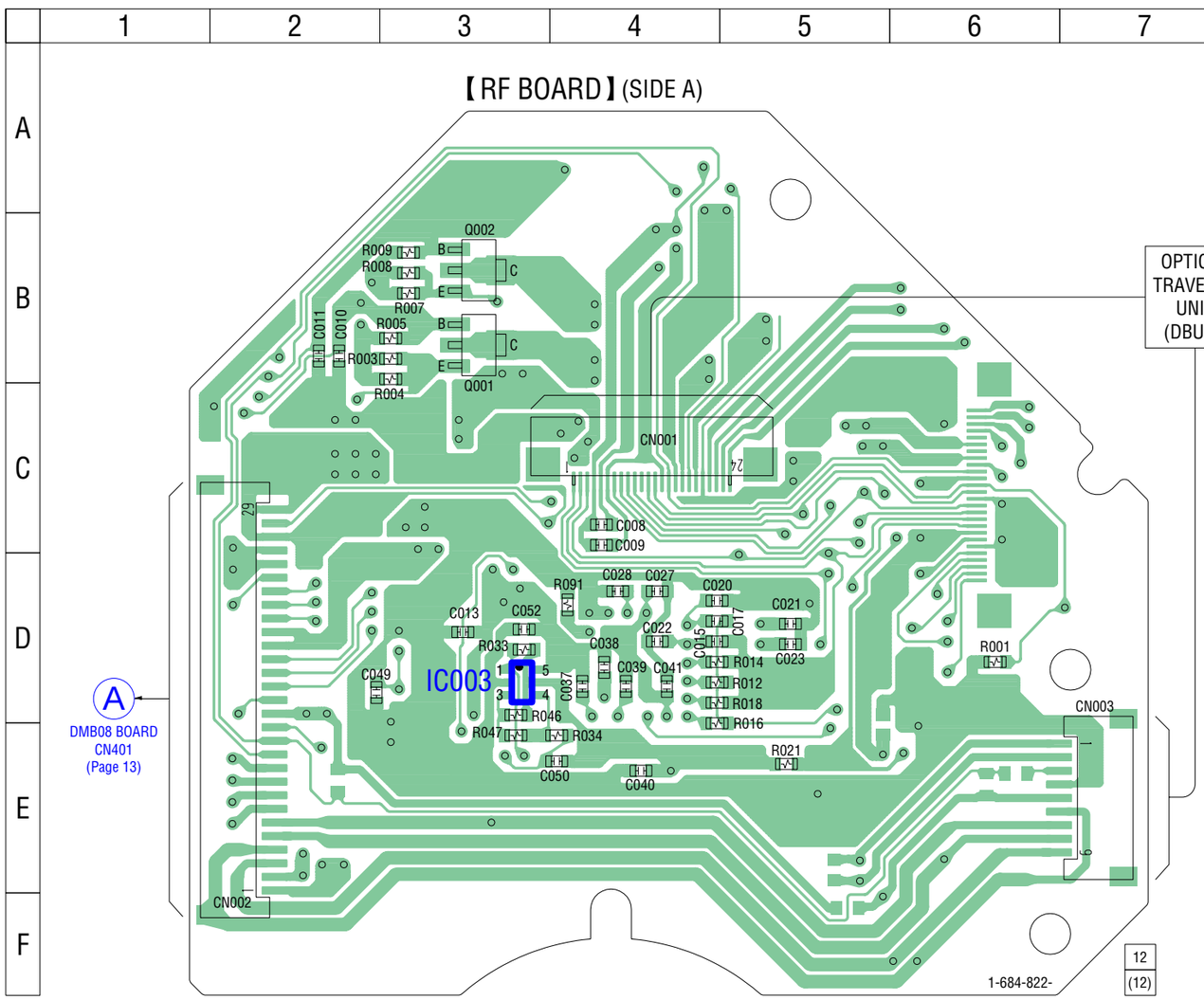
- Indication of transistor.

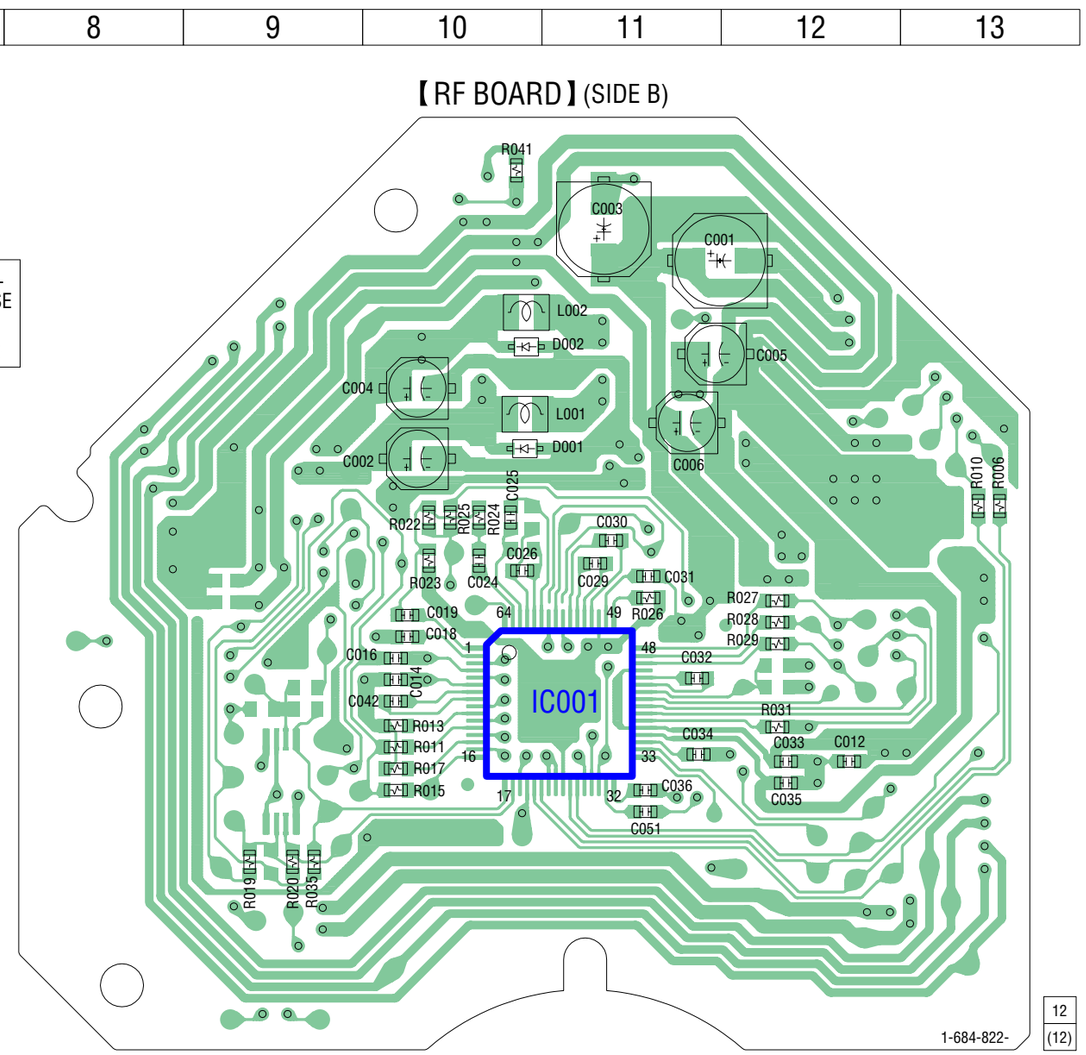




3-1. PRINTED WIRING BOARD — RF BOARD —

• See page 7 for Circuit Boards Location. :Uses unleaded solder.

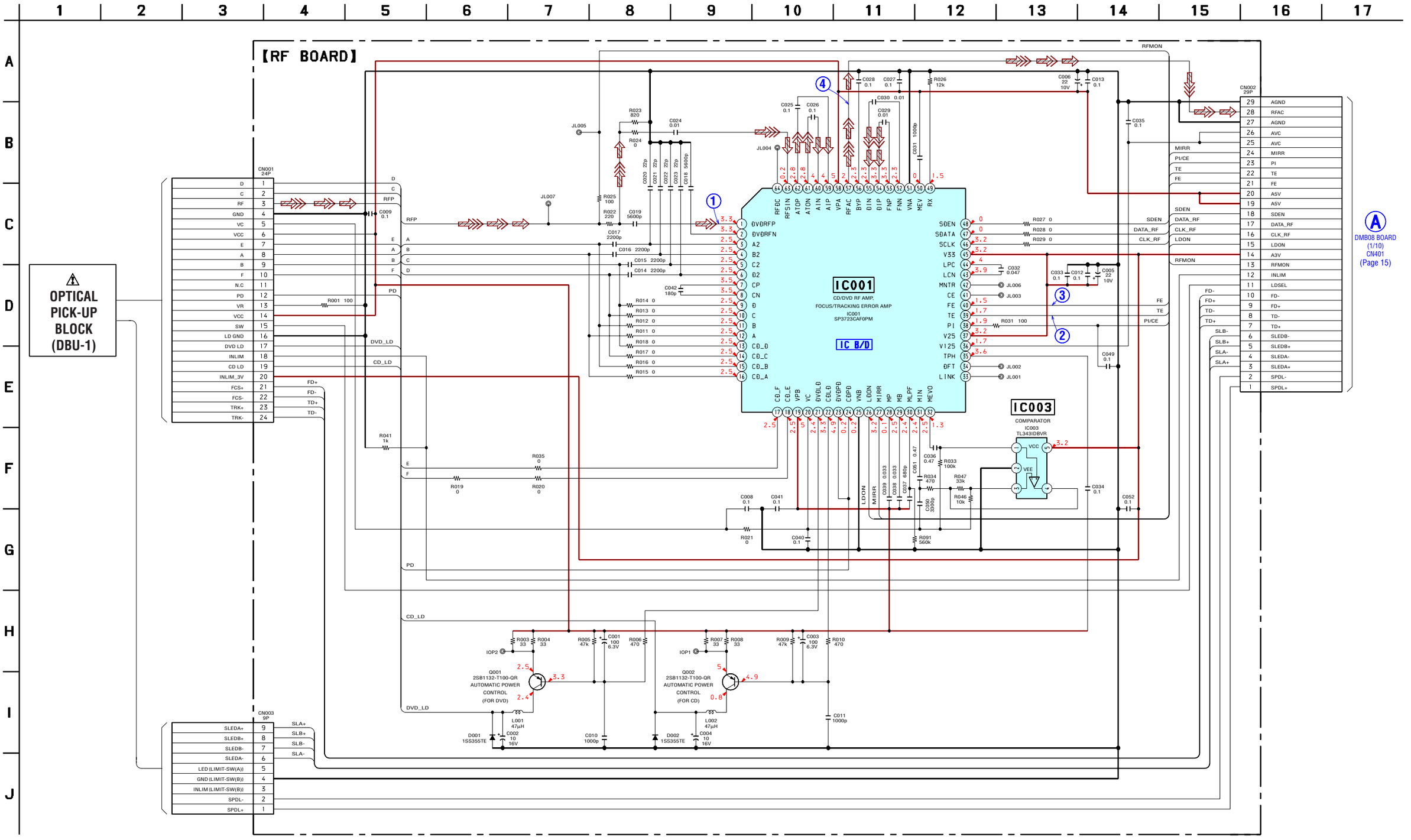




- **Semiconductor Location**

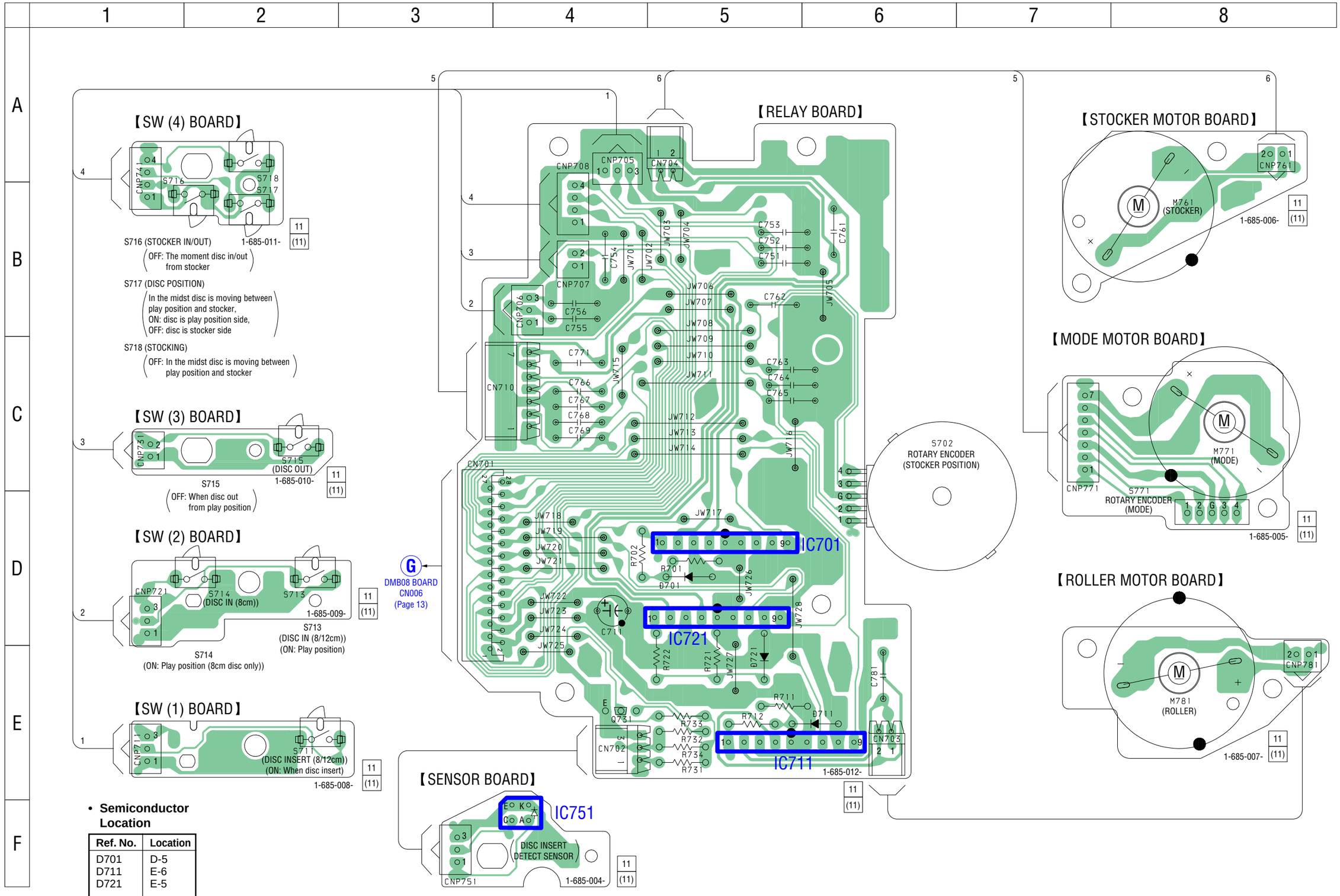
Ref. No.	Location
D001	C-10
D002	B-10
IC001	D-11
IC003	D-3
Q001	B-3
Q002	B-3

3-2. SCHEMATIC DIAGRAM — RF BOARD —



3-3. PRINTED WIRING BOARD — RELAY SECTION —

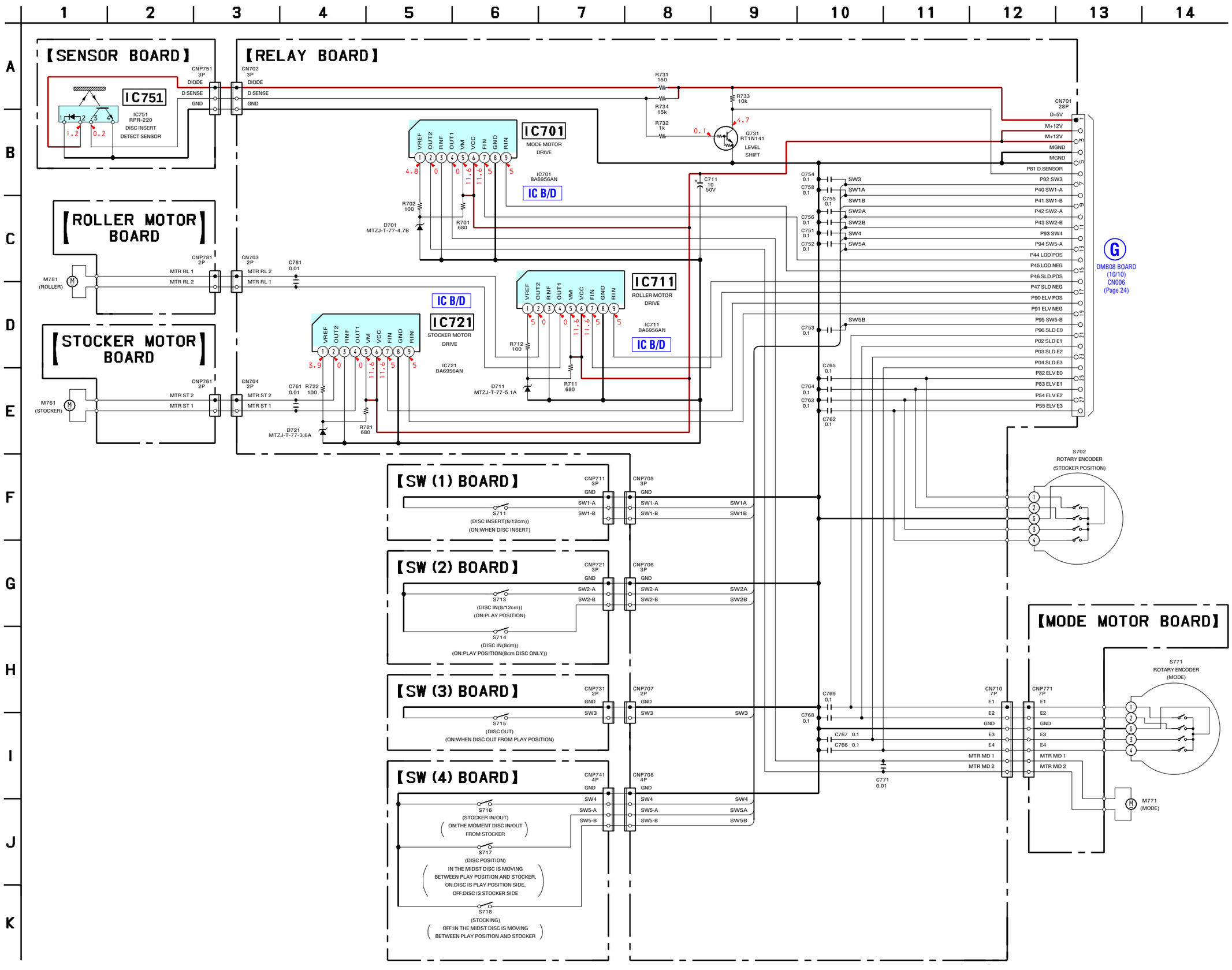
• See page 7 for Circuit Boards Location. :Uses unleaded solder.



• **Semiconductor Location**

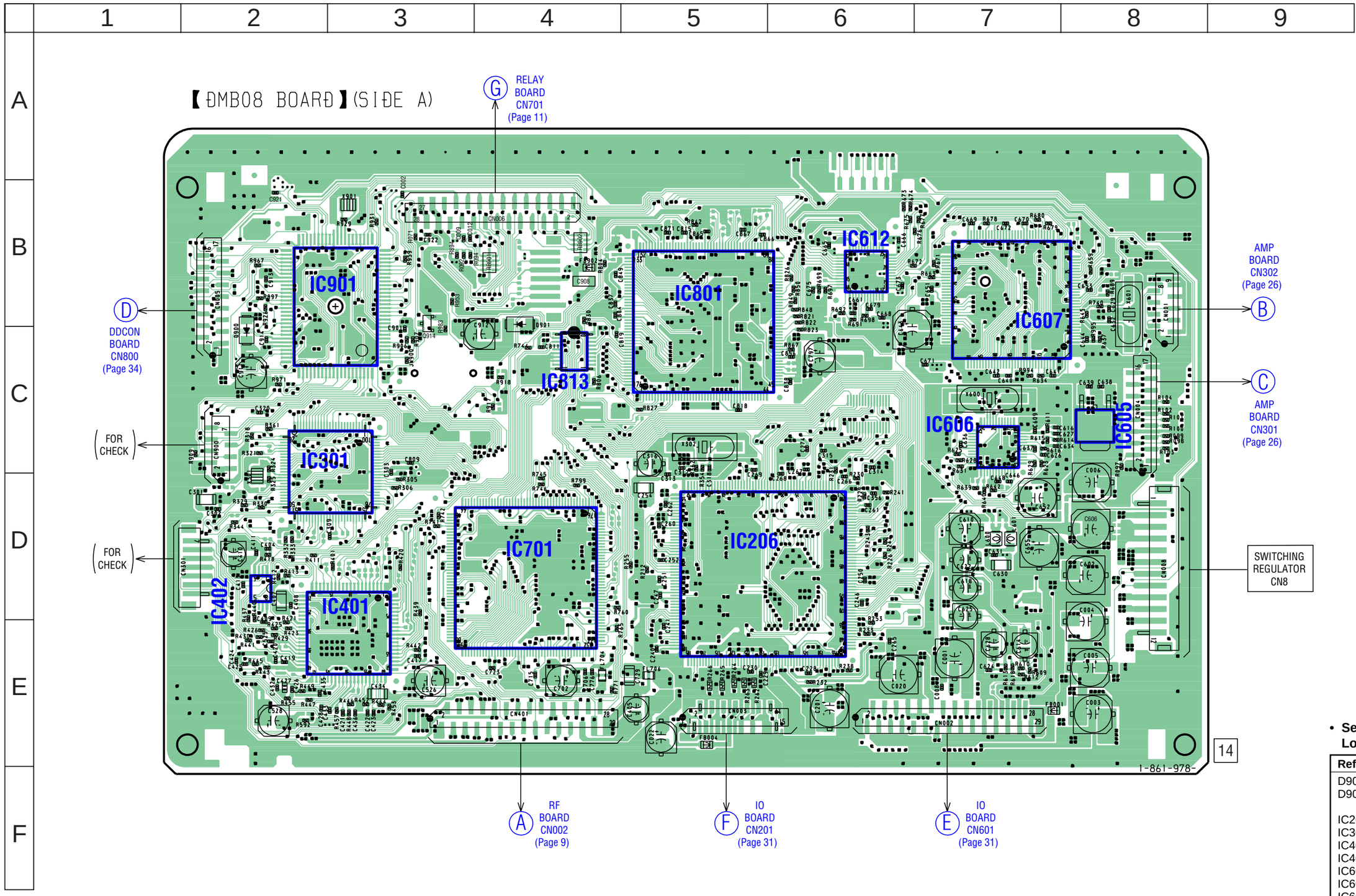
Ref. No.	Location
D701	D-5
D711	E-6
D721	E-5
IC701	D-5
IC711	E-5
IC721	D-5
IC751	F-4
Q731	E-4

3-4. SCHEMATIC DIAGRAM — RELAY SECTION —



3-5. PRINTED WIRING BOARD — DMB08 BOARD (SIDE A) —

• See page 7 for Circuit Boards Location. :Uses unleaded solder.

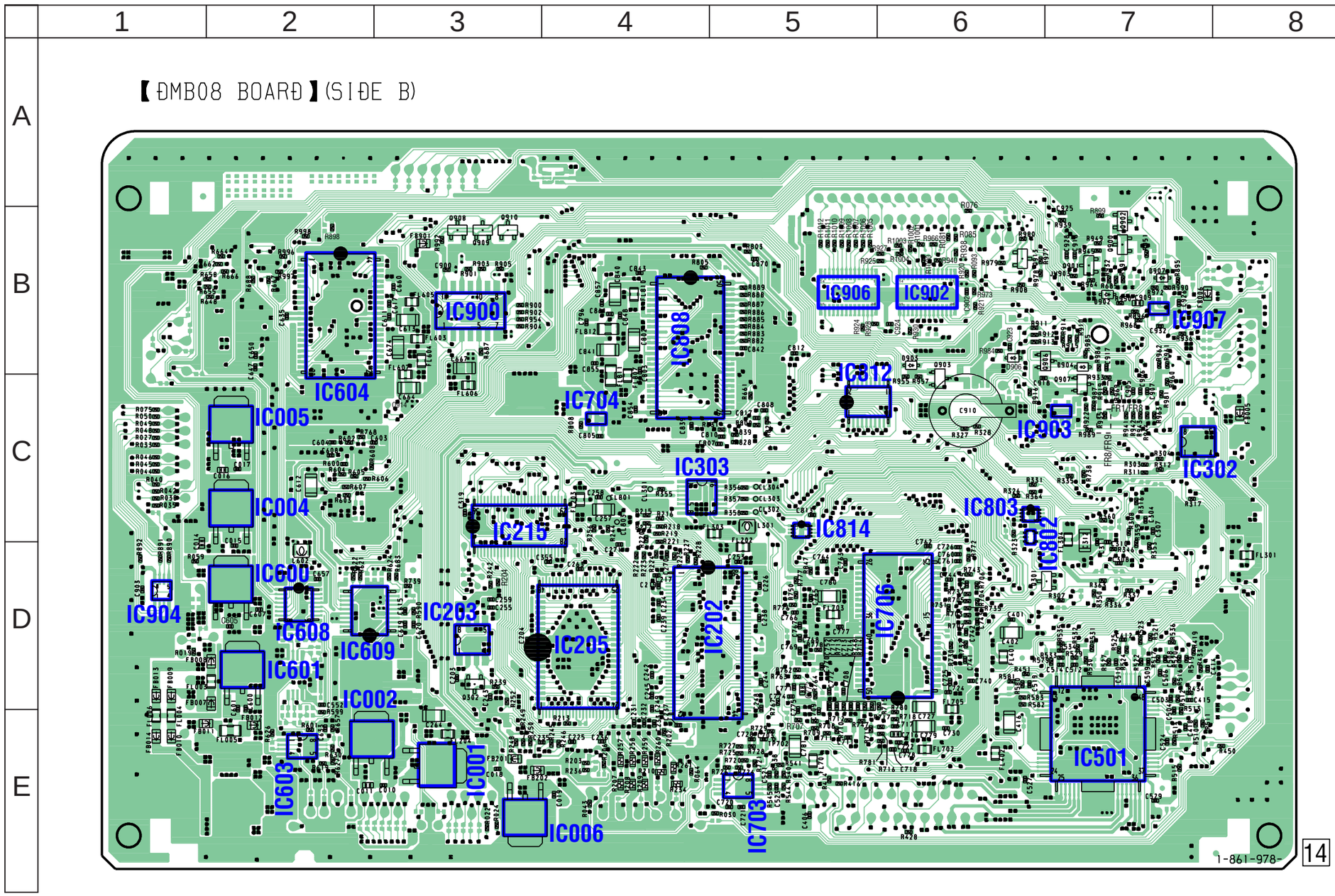


• **Semiconductor Location**

Ref. No.	Location
D900	C-2
D901	C-4
IC206	D-5
IC301	C-2
IC401	D-2
IC402	D-2
IC605	C-8
IC606	C-7
IC607	B-7
IC612	B-6
IC701	D-4
IC801	B-5
IC813	C-4
IC901	B-2
Q914	C-3

3-6. PRINTED WIRING BOARD — DMB08 BOARD (SIDE B) —

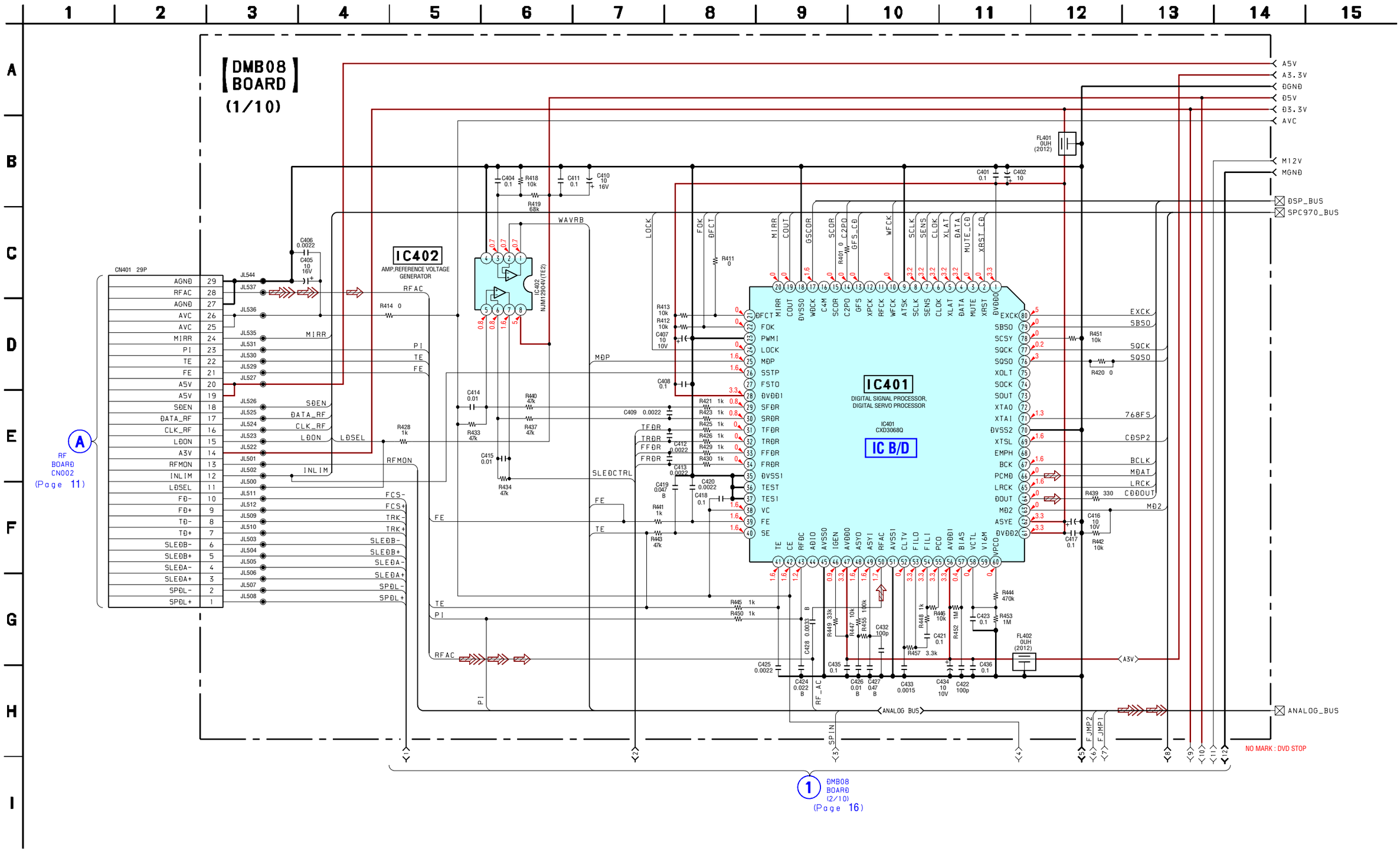
• See page 7 for Circuit Boards Location. :Uses unleaded solder.



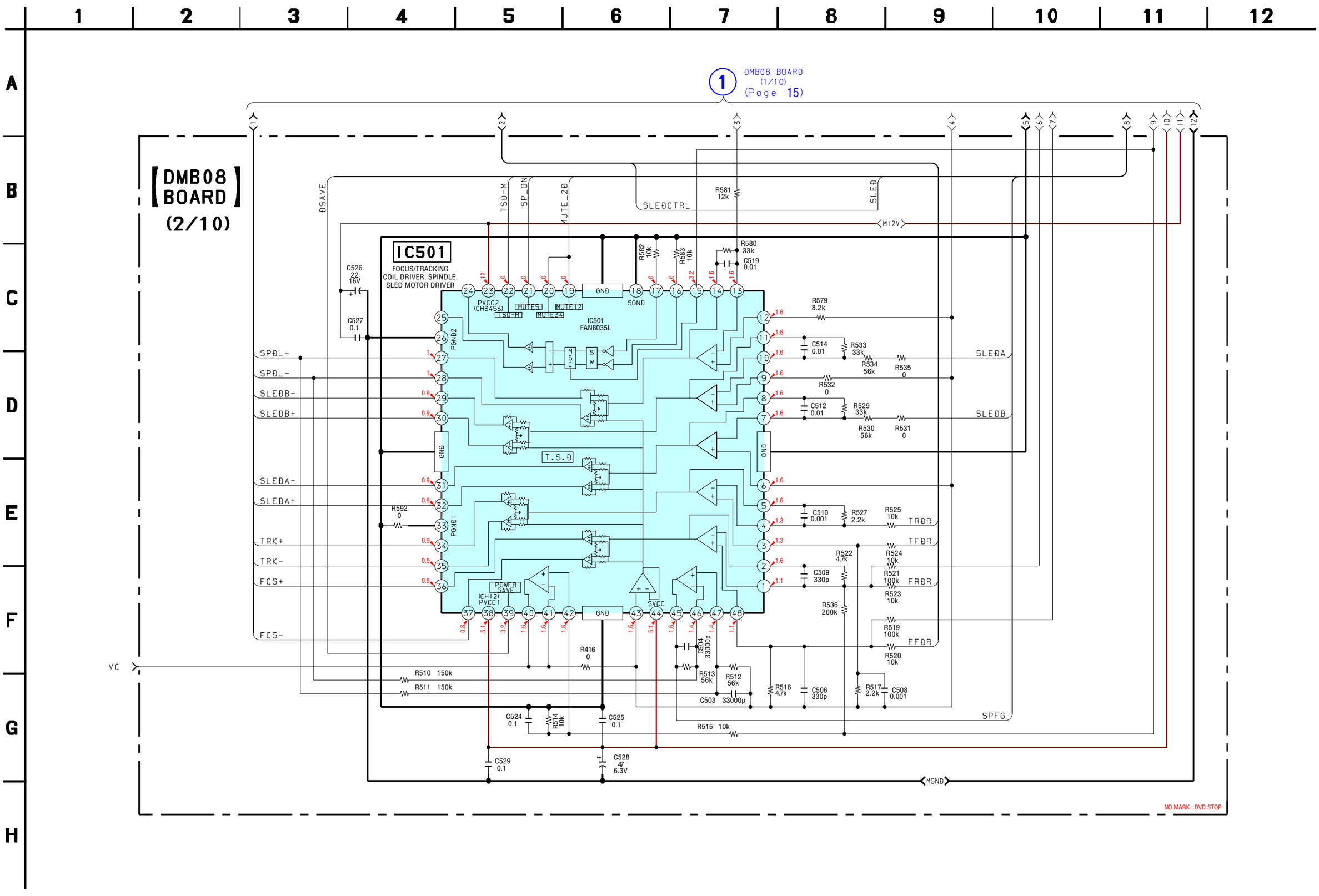
- **Semiconductor Location**

Ref. No.	Location
D902	B-7
D903	B-6
D904	C-7
D906	B-6
D907	B-7
IC001	E-3
IC002	D-2
IC004	C-2
IC005	C-2
IC006	E-4
IC202	D-4
IC203	D-3
IC205	D-4
IC215	C-3
IC302	C-7
IC303	C-4
IC501	E-7
IC600	D-2
IC601	D-2
IC603	E-2
IC604	C-2
IC608	D-2
IC609	D-2
IC703	E-5
IC704	C-4
IC706	D-5
IC802	C-7
IC803	C-6
IC808	B-4
IC812	C-5
IC814	C-5
IC900	B-3
IC902	B-6
IC903	C-6
IC904	D-1
IC906	B-5
IC907	B-7
Q301	D-6
Q302	D-3
Q900	B-7
Q901	B-7
Q902	B-7
Q903	B-6
Q906	B-6
Q907	C-7
Q908	B-3
Q909	B-3
Q910	B-3
Q913	B-7

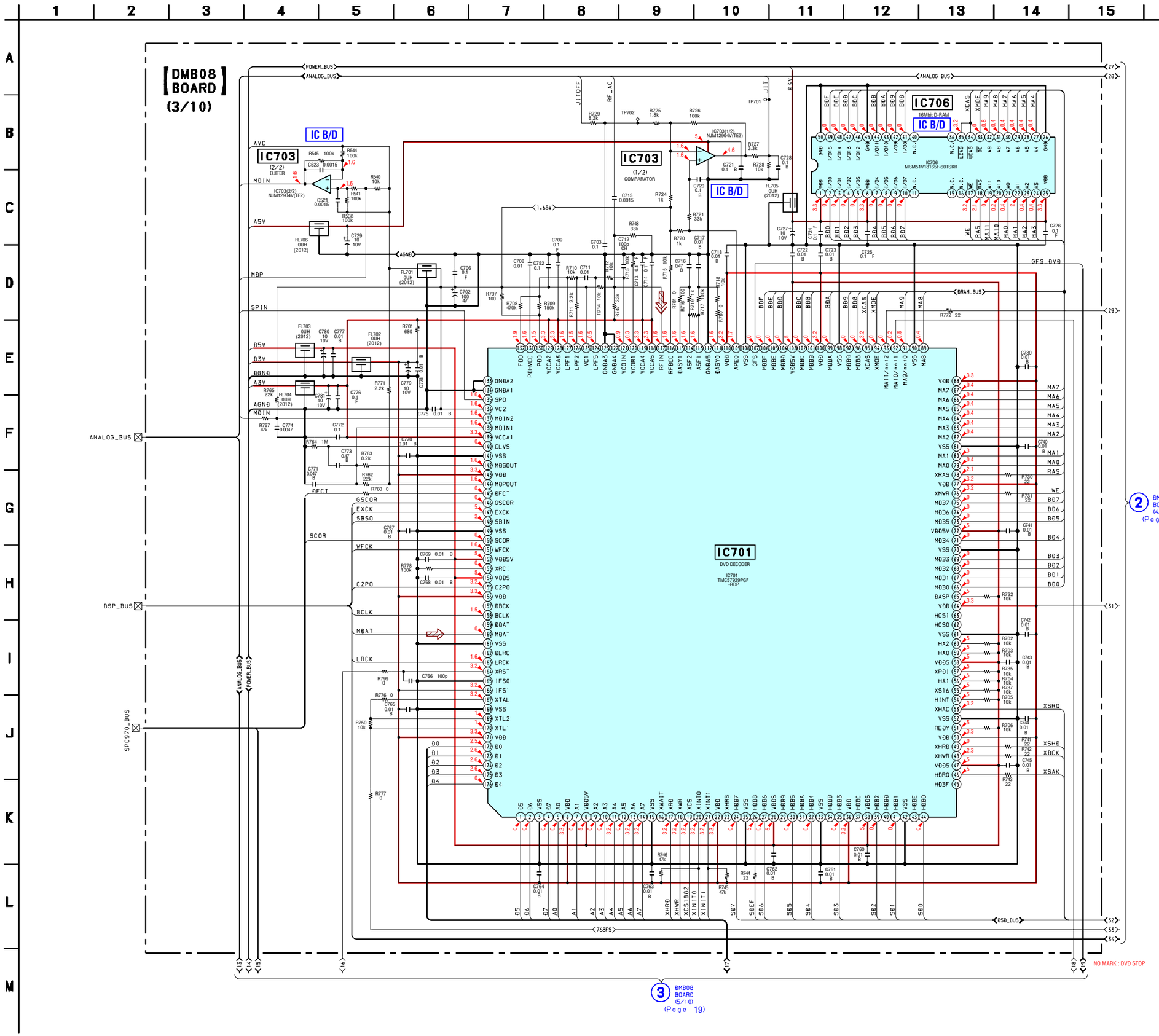
3-7. SCHEMATIC DIAGRAM — DMB08 BOARD (1/10) —



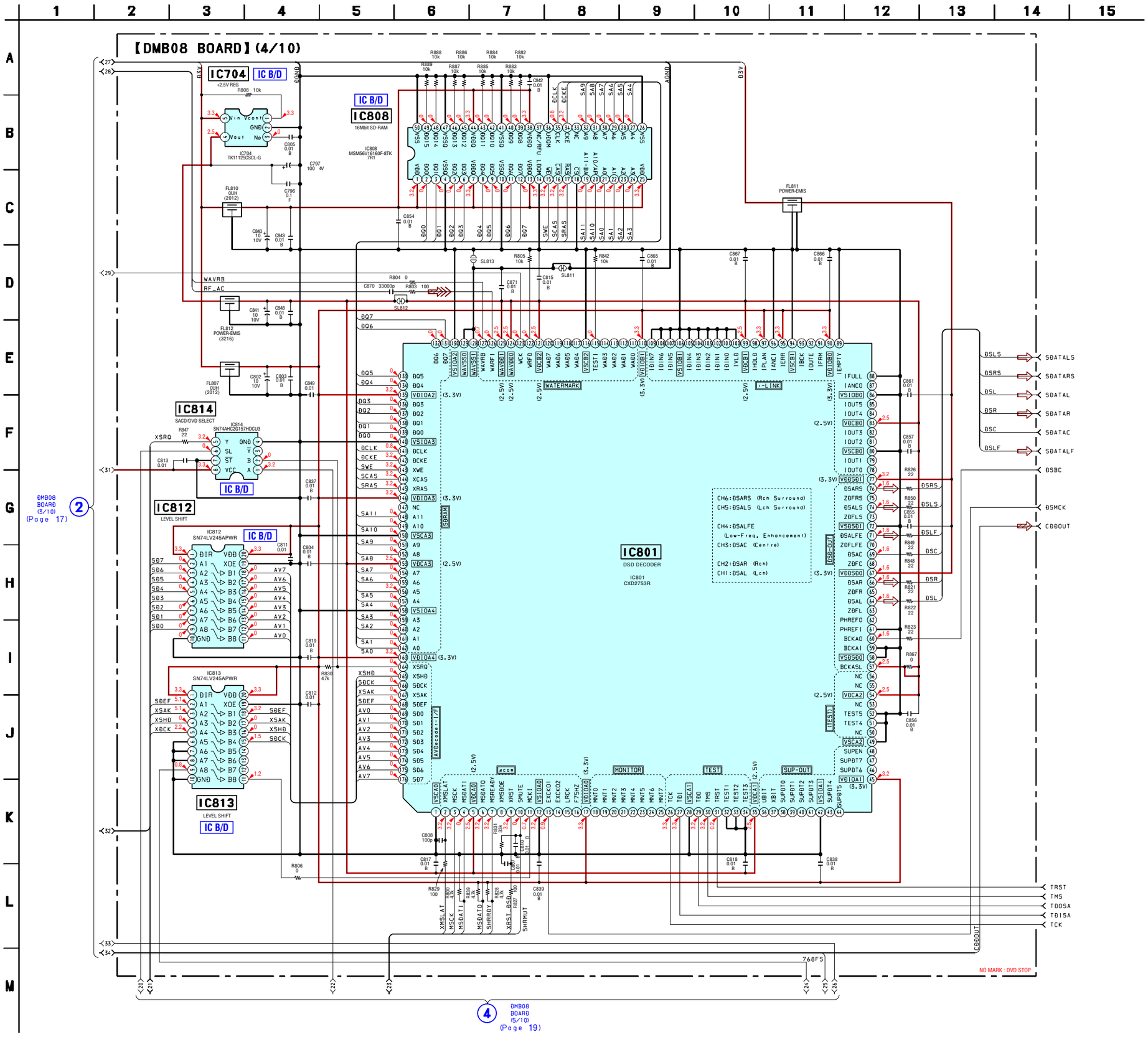
3-8. SCHEMATIC DIAGRAM — DMB08 BOARD (2/10) —



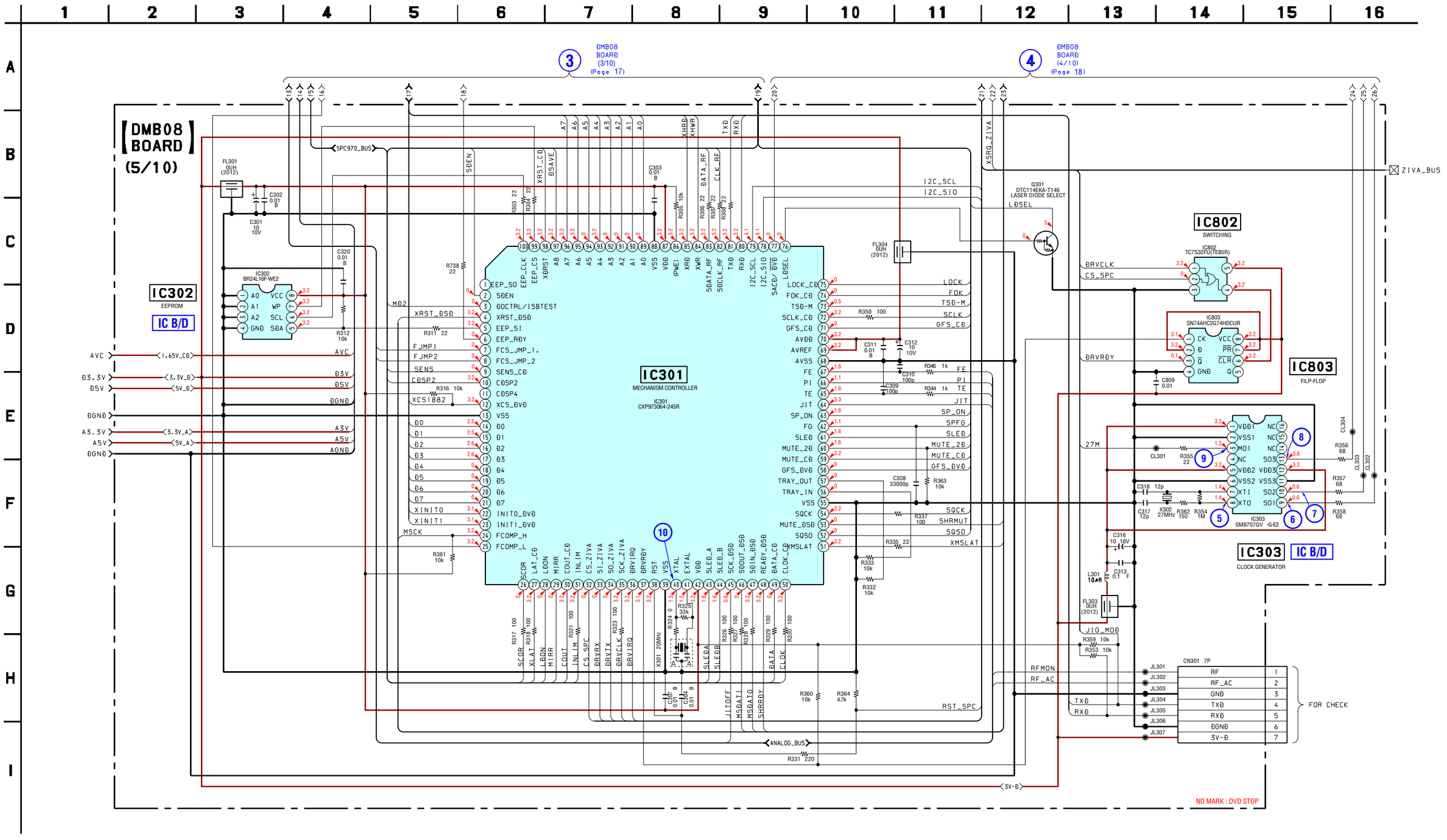
3-9. SCHEMATIC DIAGRAM — DMB08 BOARD (3/10) —



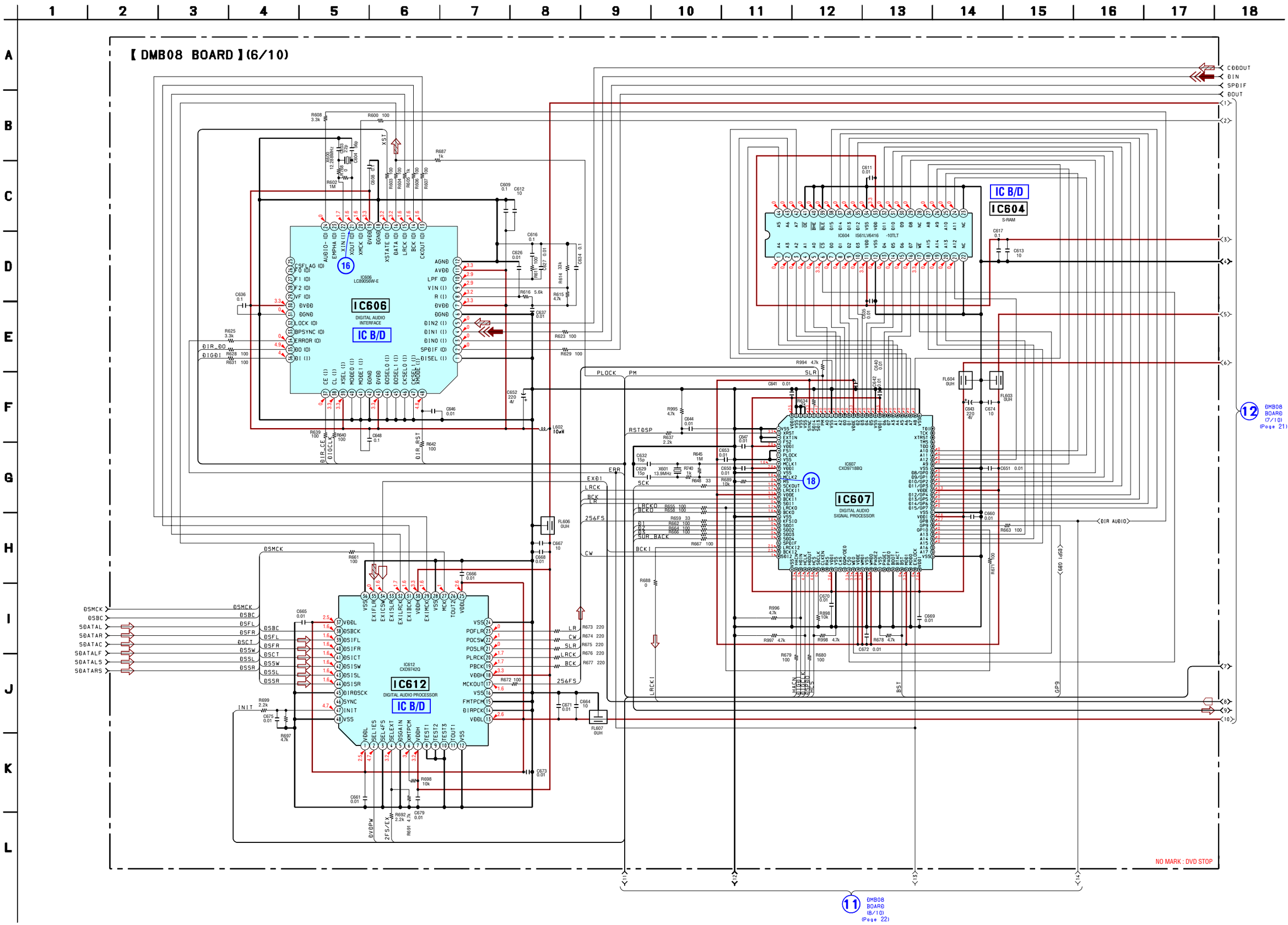
3-10. SCHEMATIC DIAGRAM — DMB08 BOARD (4/10) —



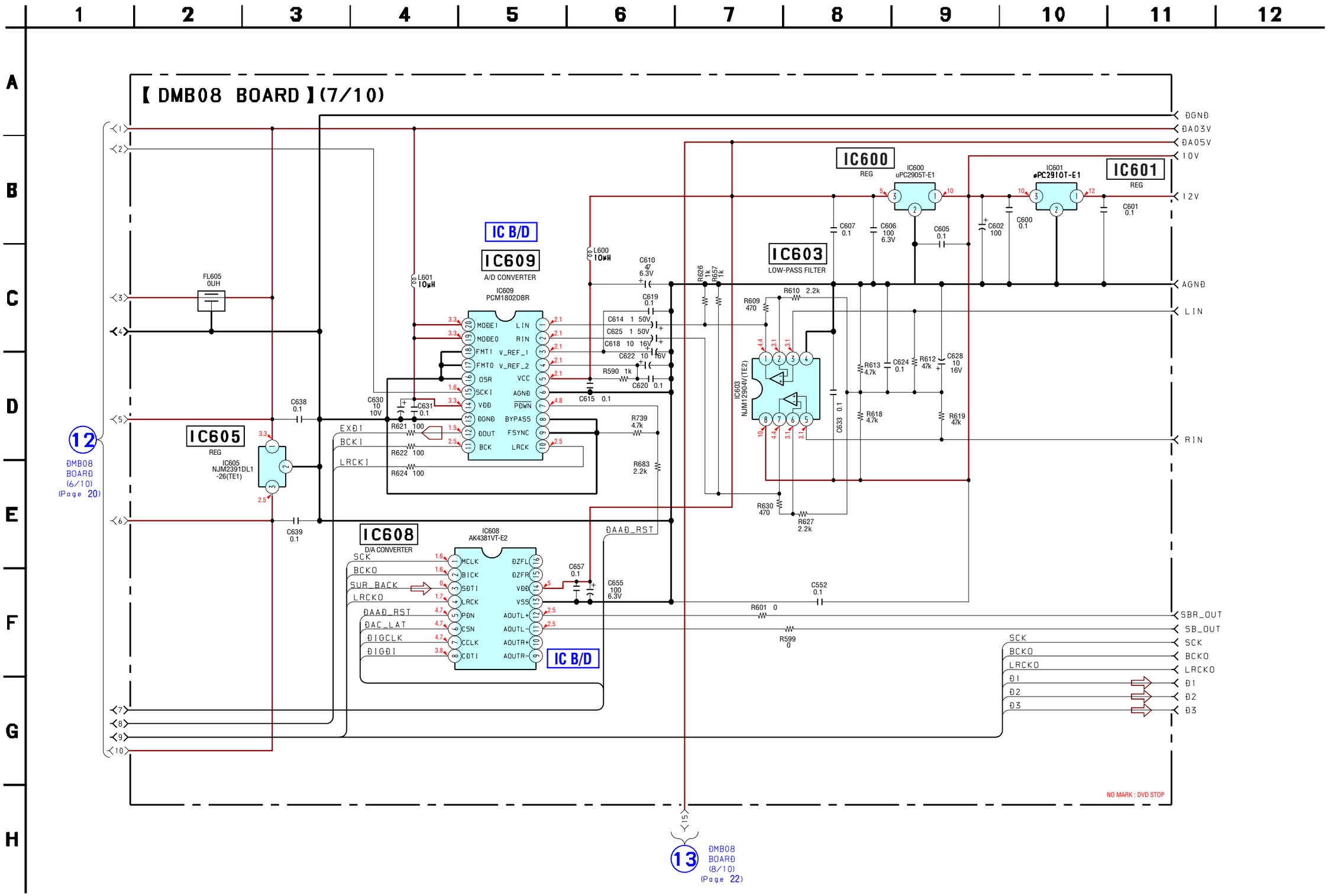
3-11. SCHEMATIC DIAGRAM — DMB08 BOARD (5/10) —



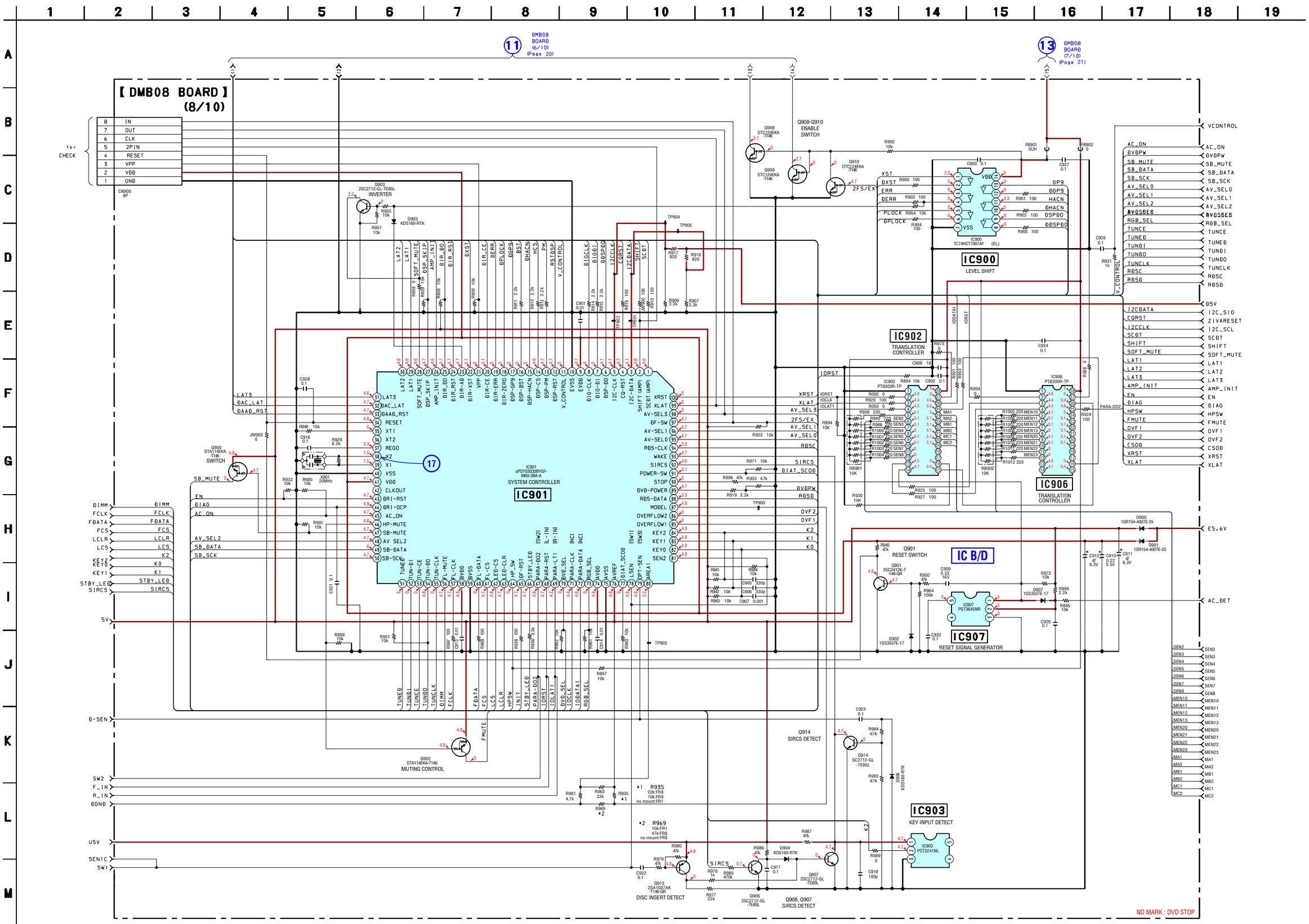
3-12. SCHEMATIC DIAGRAM — DMB08 BOARD (6/10) —



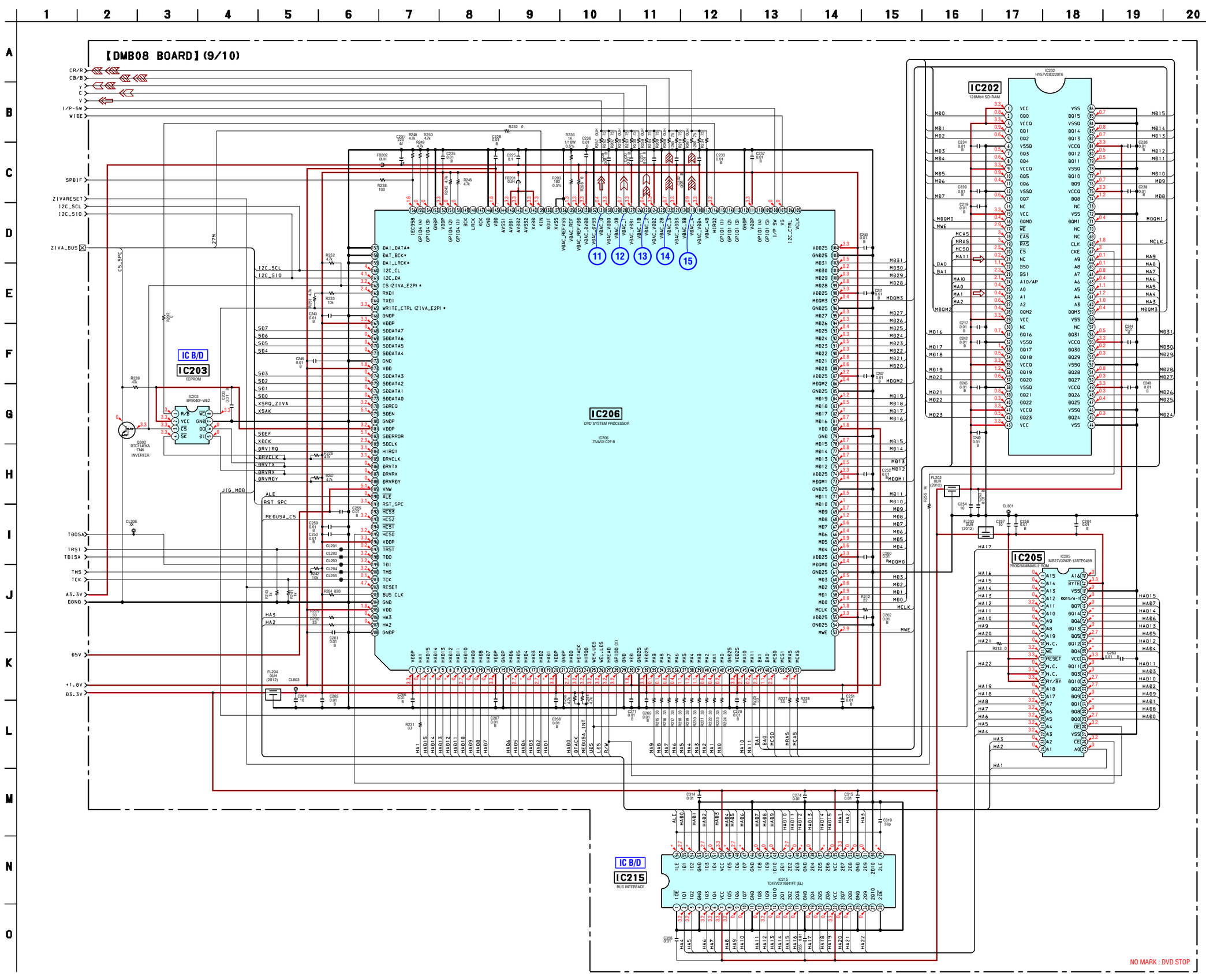
3-13. SCHEMATIC DIAGRAM — DMB08 BOARD (7/10) —



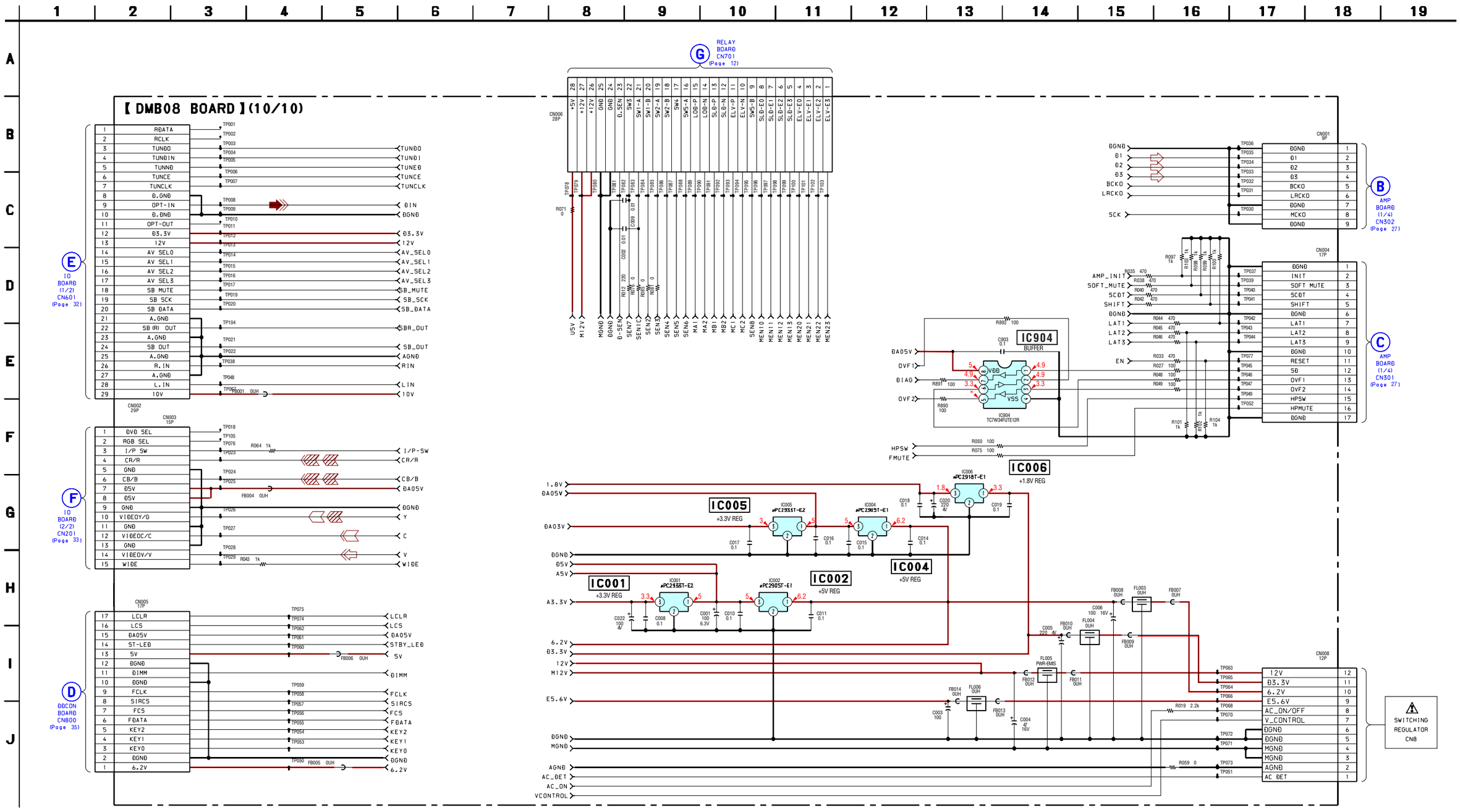
3-14. SCHEMATIC DIAGRAM — DMB08 BOARD (8/10) —



3-15. SCHEMATIC DIAGRAM — DMB08 BOARD (9/10) —



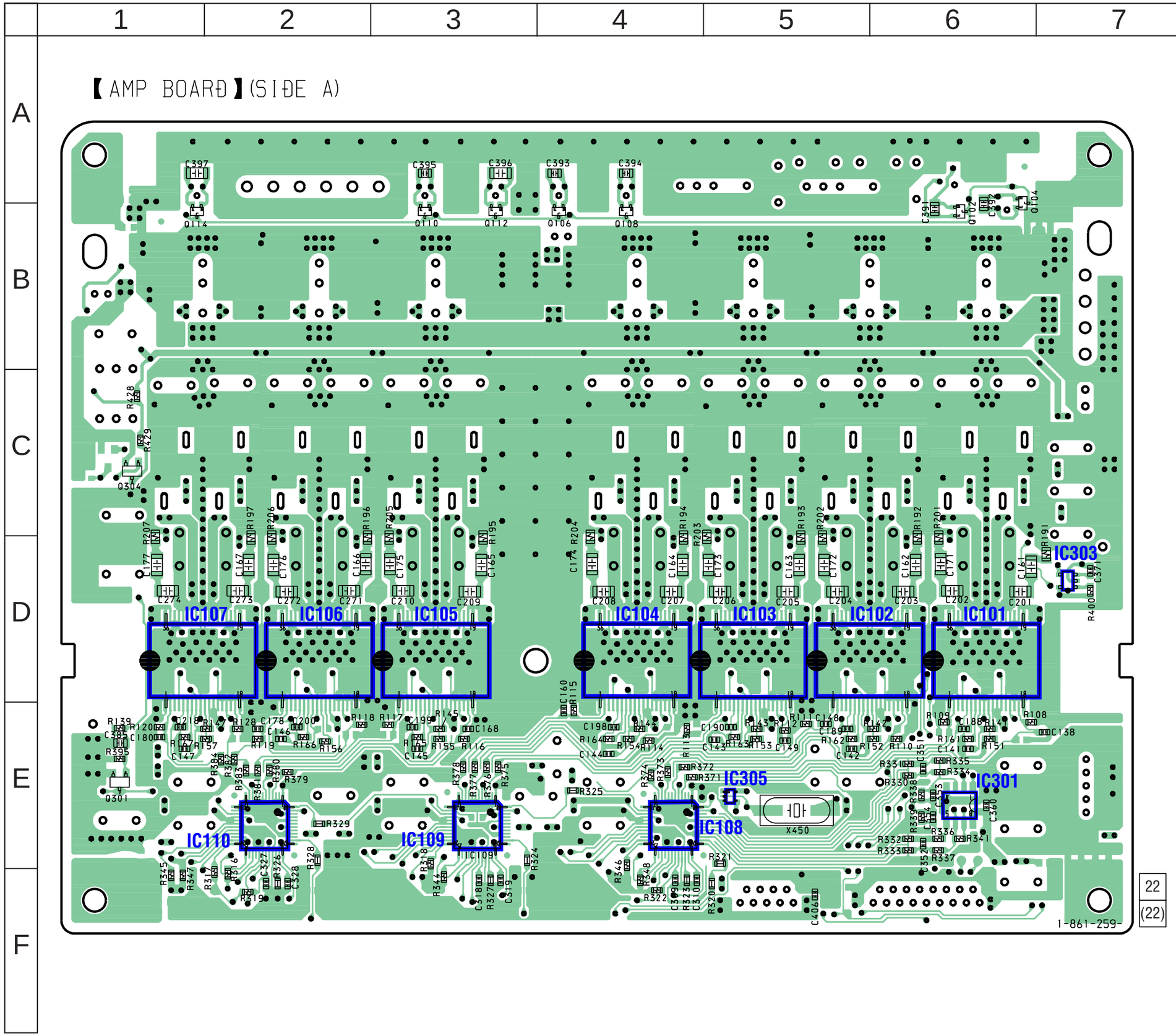
3-16. SCHEMATIC DIAGRAM — DMB08 BOARD (10/10) —



3-17. PRINTED WIRING BOARD — AMP BOARD (SIDE A) —

• See page 7 for Circuit Boards Location. :Uses unleaded solder.

【AMP BOARD】(SIDE A)

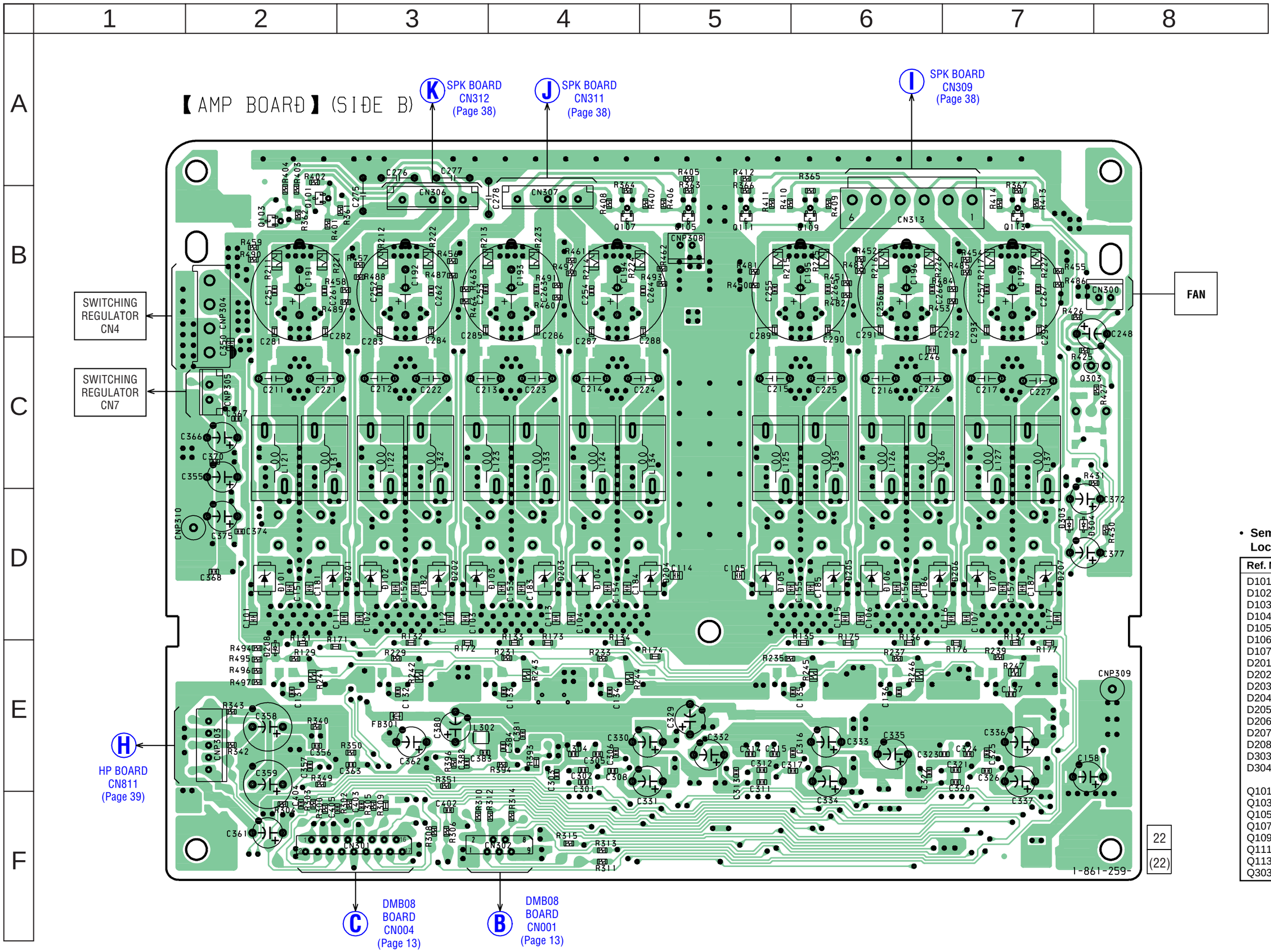


- **Semiconductor Location**

Ref. No.	Location
IC101	D-6
IC102	D-5
IC103	D-5
IC104	D-4
IC105	D-3
IC106	D-2
IC107	D-1
IC108	E-4
IC109	E-3
IC110	E-2
IC301	E-6
IC303	C-7
IC305	E-5
Q102	B-6
Q104	B-7
Q106	B-4
Q108	B-4
Q110	B-3
Q112	B-3
Q114	B-1
Q301	E-1
Q304	C-1

3-18. PRINTED WIRING BOARD — AMP BOARD (SIDE B) —

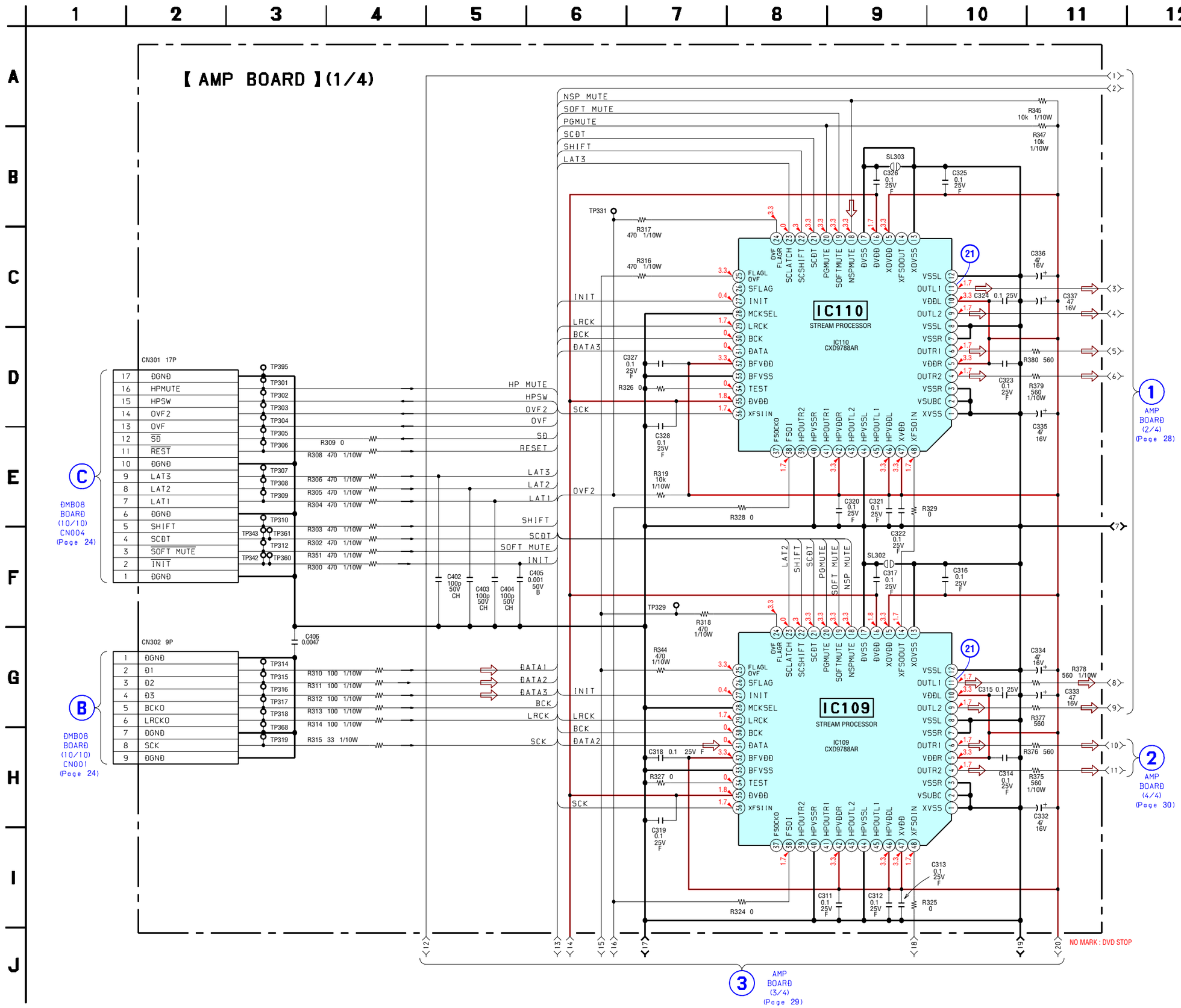
• See page 7 for Circuit Boards Location. :Uses unleaded solder.



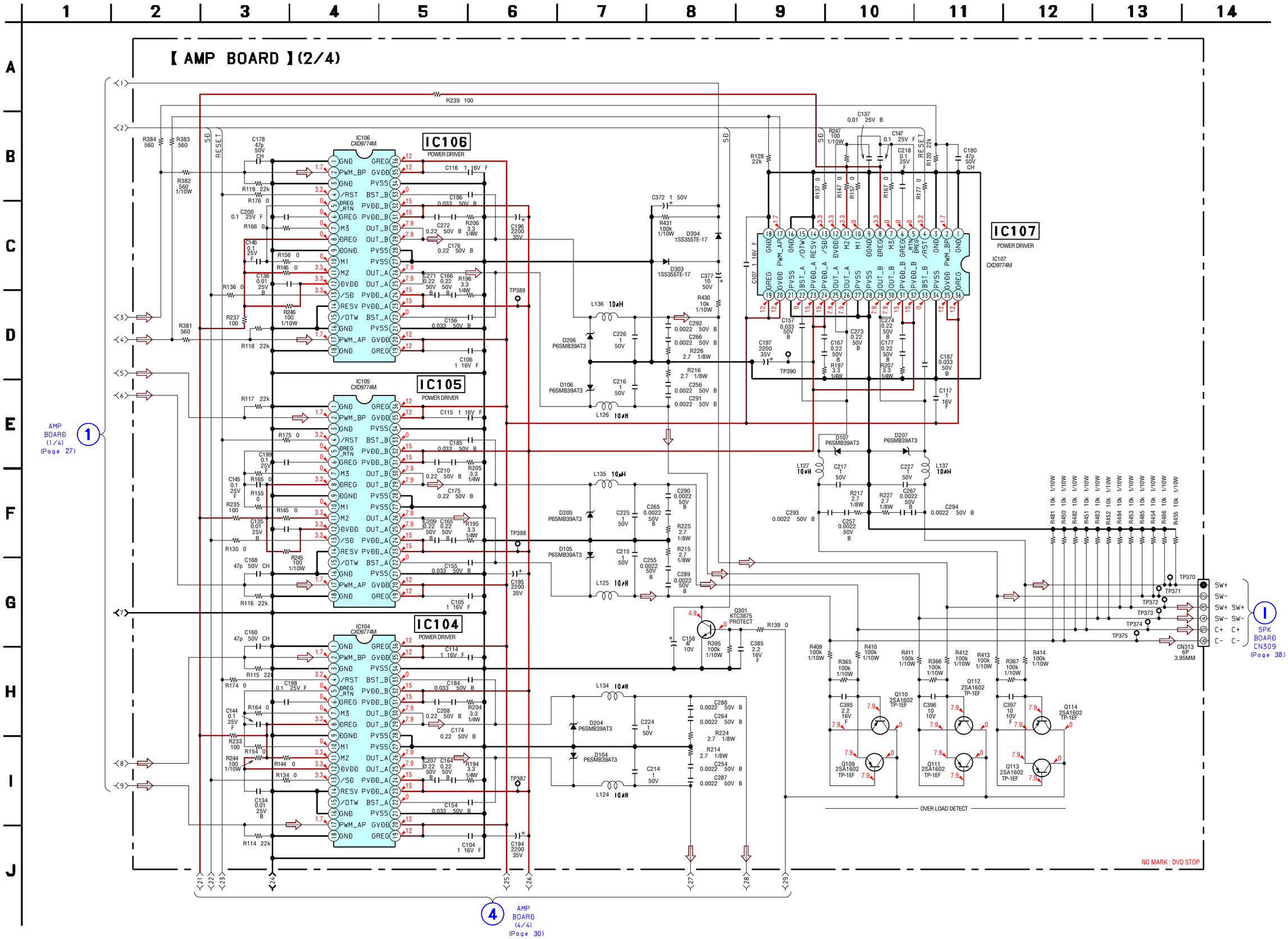
- Semiconductor Location

Ref. No.	Location
D101	D-2
D102	D-3
D103	D-4
D104	D-4
D105	D-5
D106	D-6
D107	D-7
D201	D-3
D202	D-3
D203	D-4
D204	D-5
D205	D-6
D206	D-7
D207	D-7
D208	E-2
D303	D-7
D304	D-7
Q101	B-2
Q103	B-2
Q105	B-5
Q107	B-4
Q109	B-6
Q111	B-5
Q113	B-7
Q303	C-7

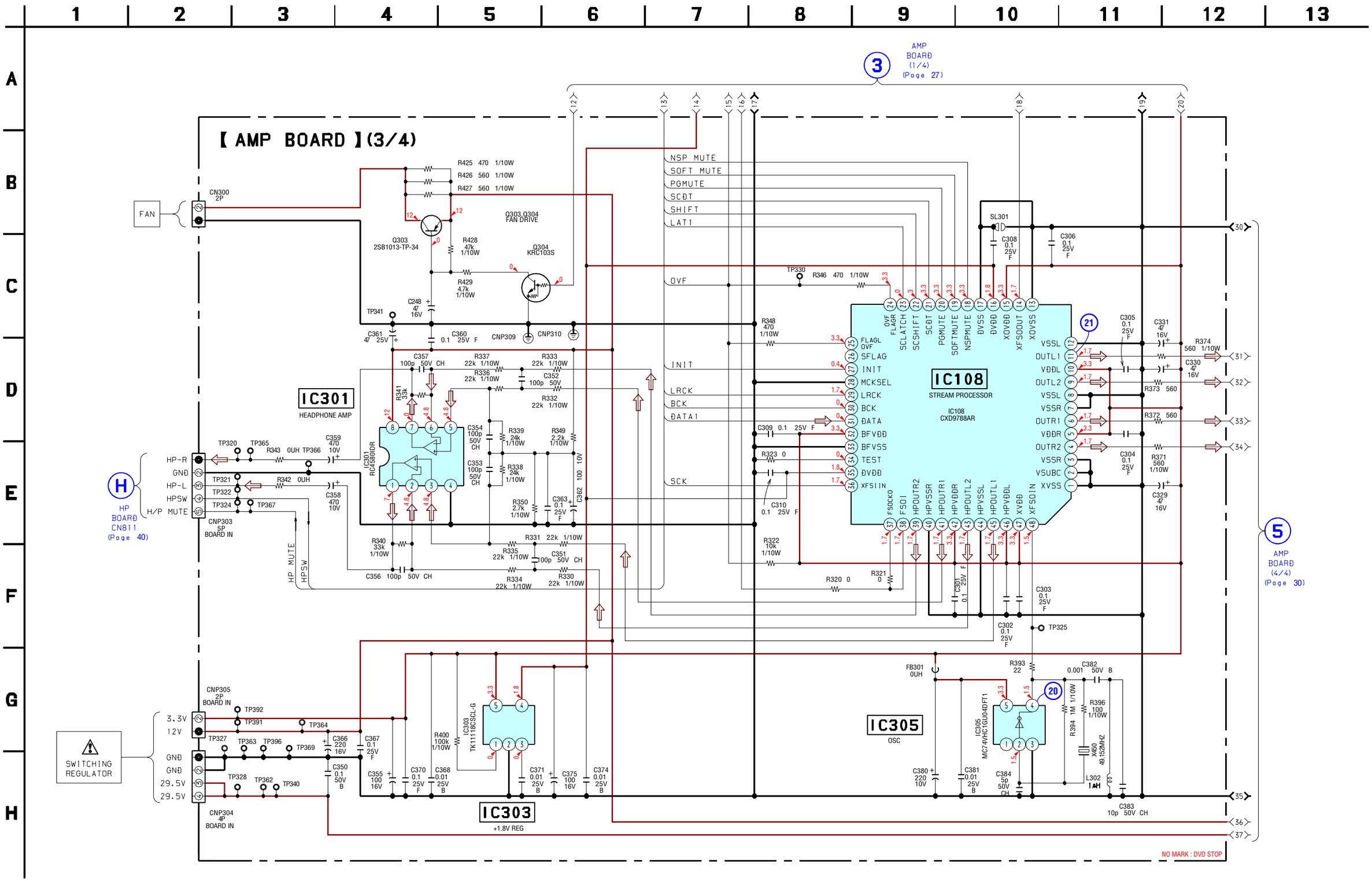
3-19. SCHEMATIC DIAGRAM — AMP BOARD (1/4) —



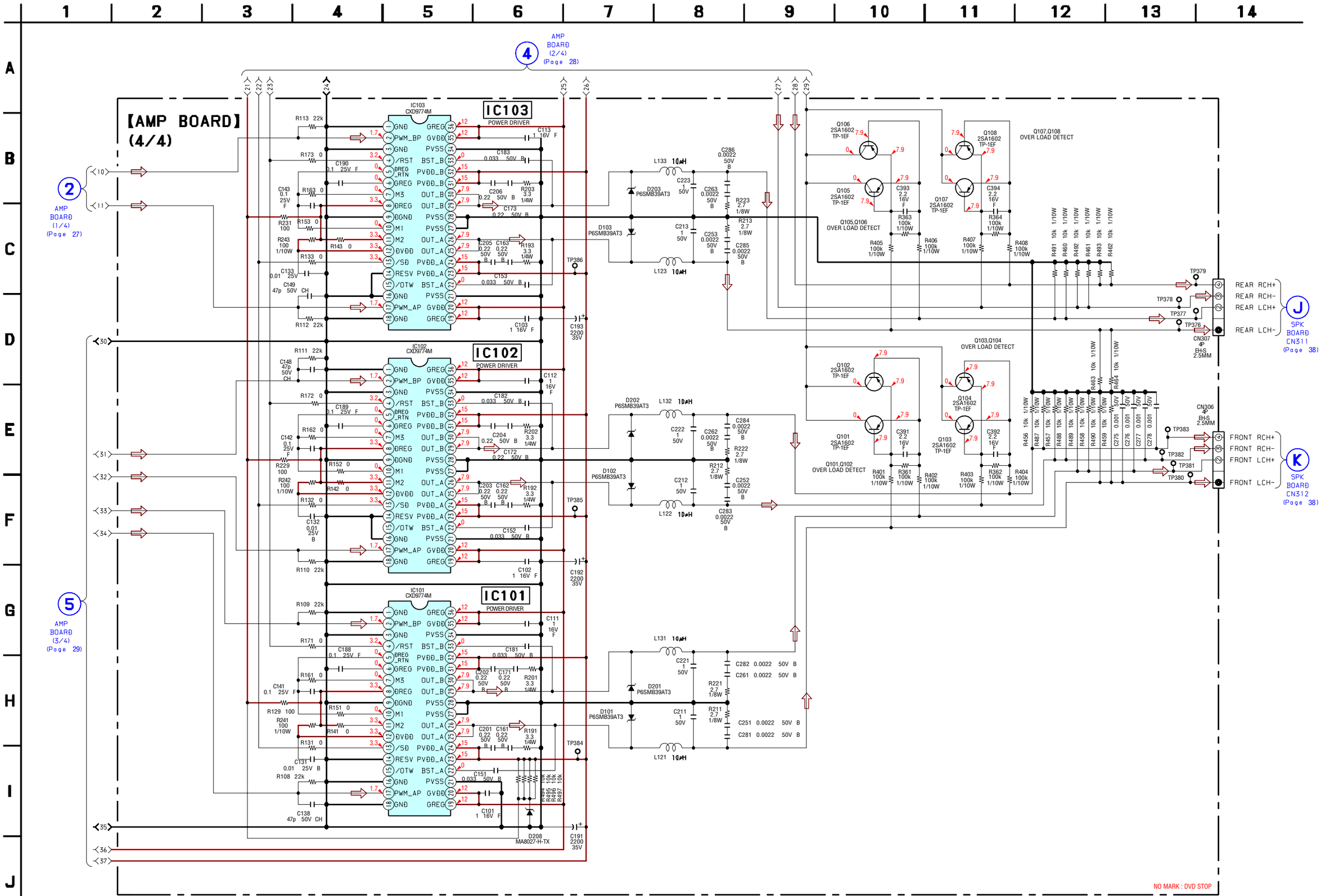
3-20. SCHEMATIC DIAGRAM — AMP BOARD (2/4) —



3-21. SCHEMATIC DIAGRAM — AMP BOARD (3/4) —



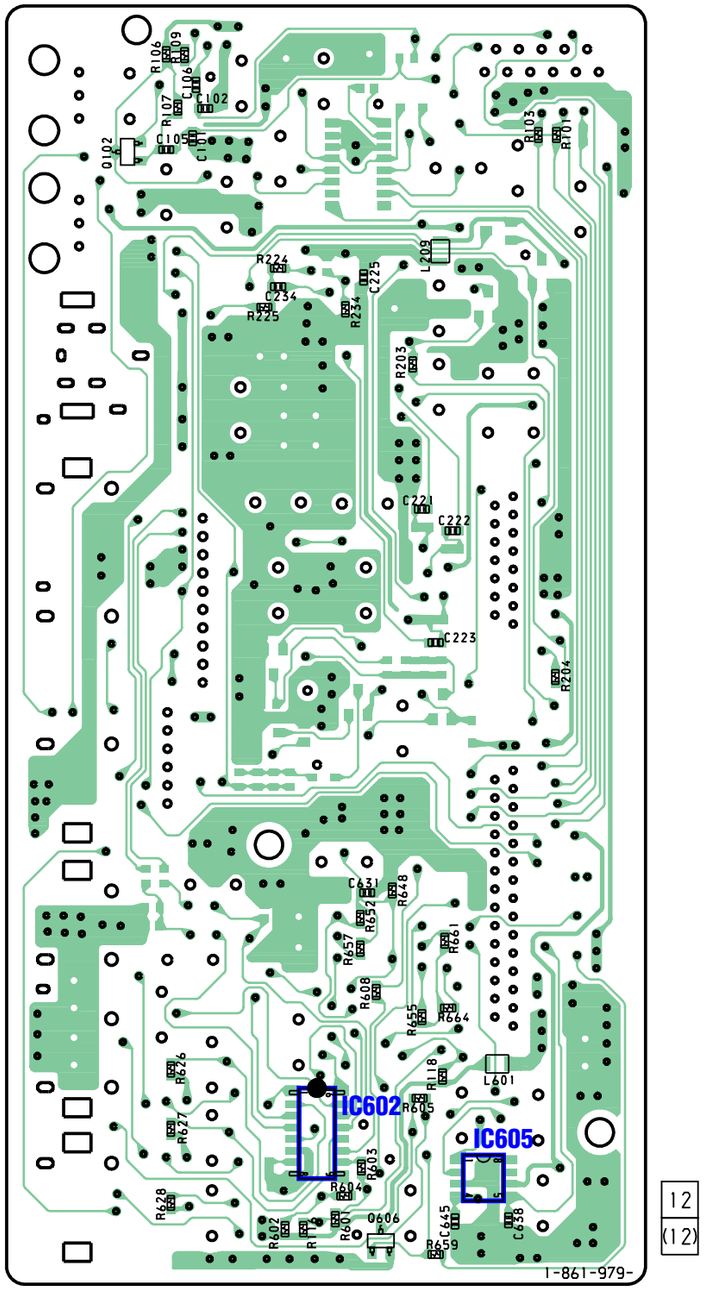
3-22. SCHEMATIC DIAGRAM — AMP BOARD (4/4) —



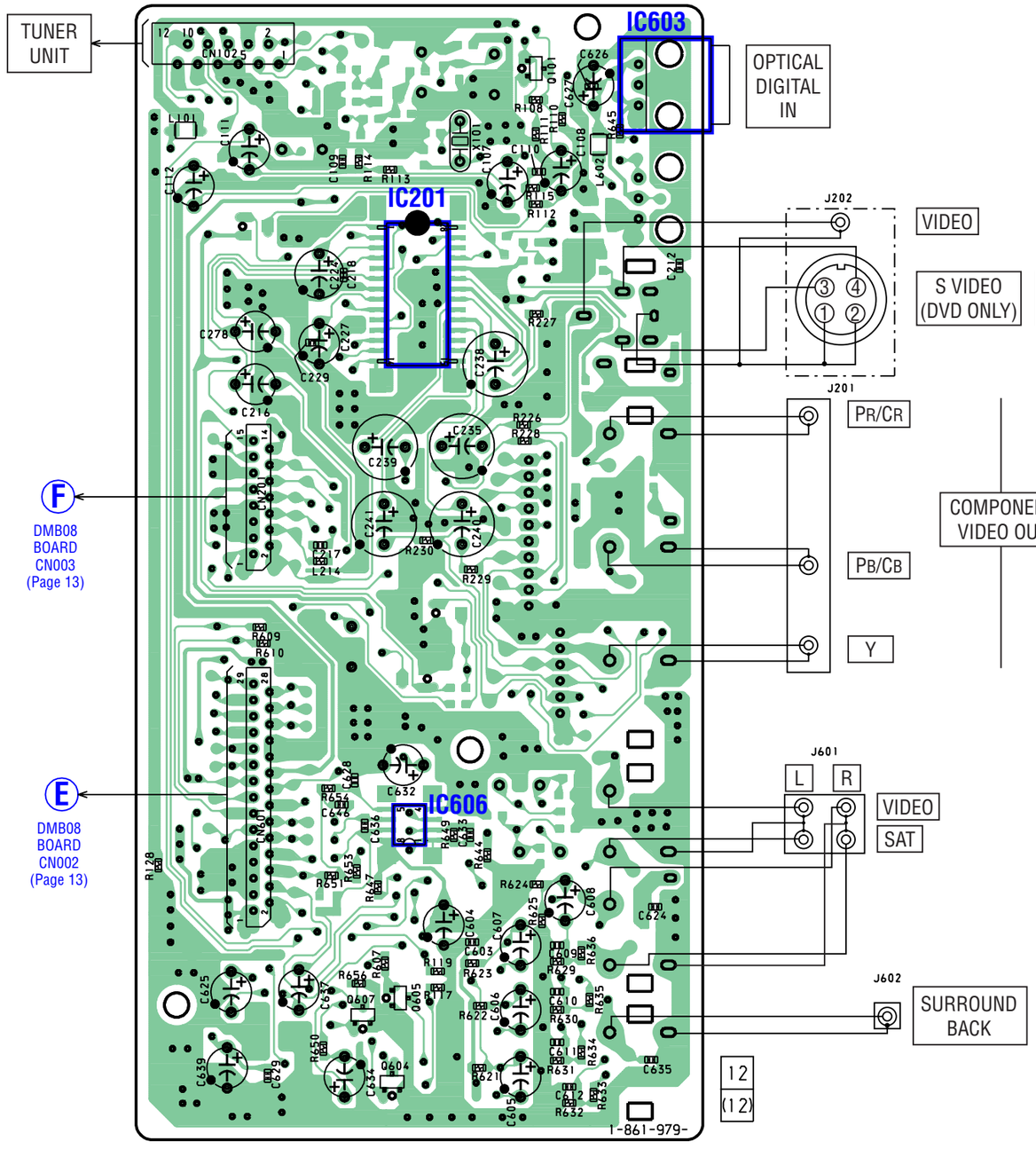
3-23. PRINTED WIRING BOARD — IO BOARD —

• See page 7 for Circuit Boards Location. :Uses unleaded solder.

【IO BOARD】(SIDE A)



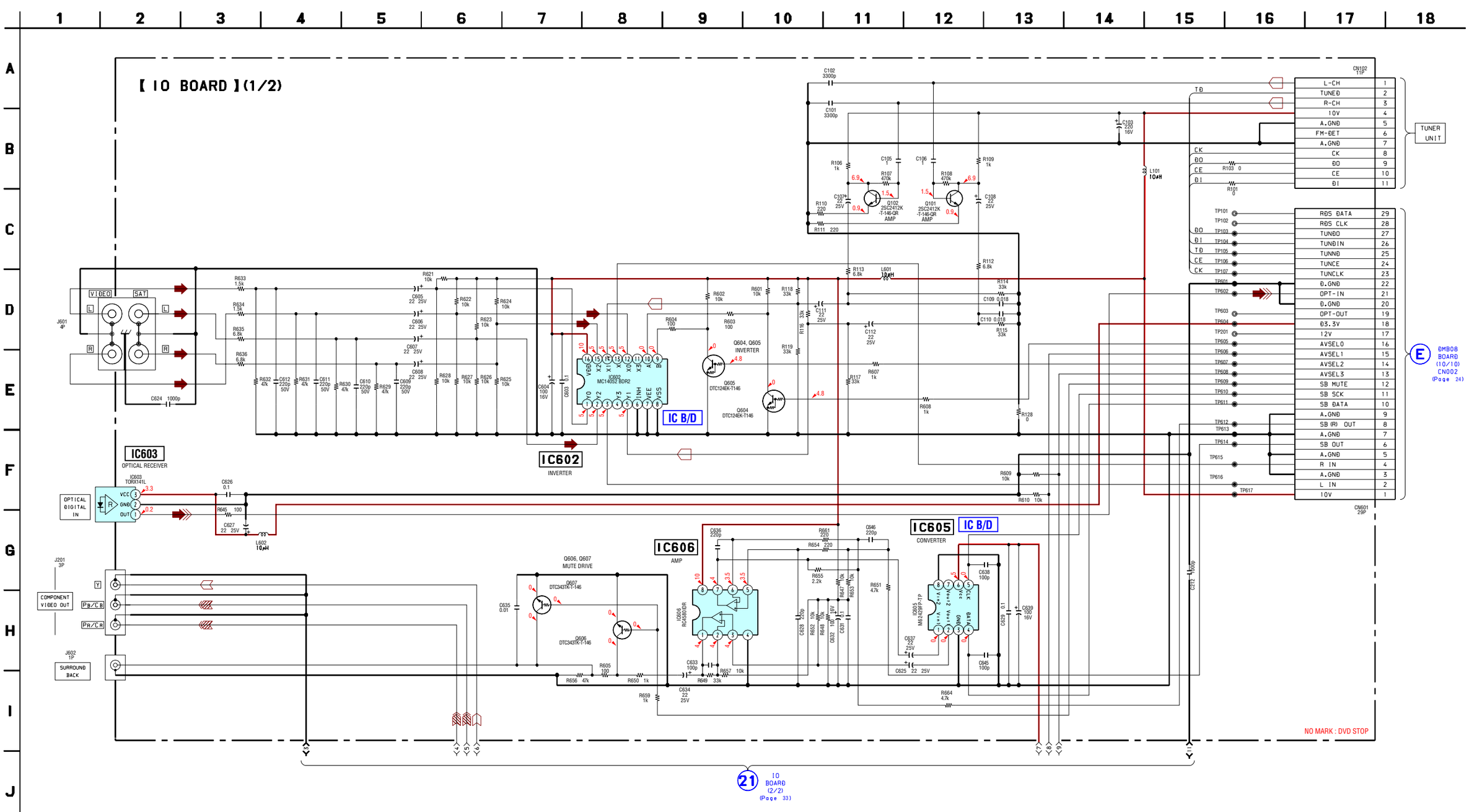
【IO BOARD】(SIDE B)



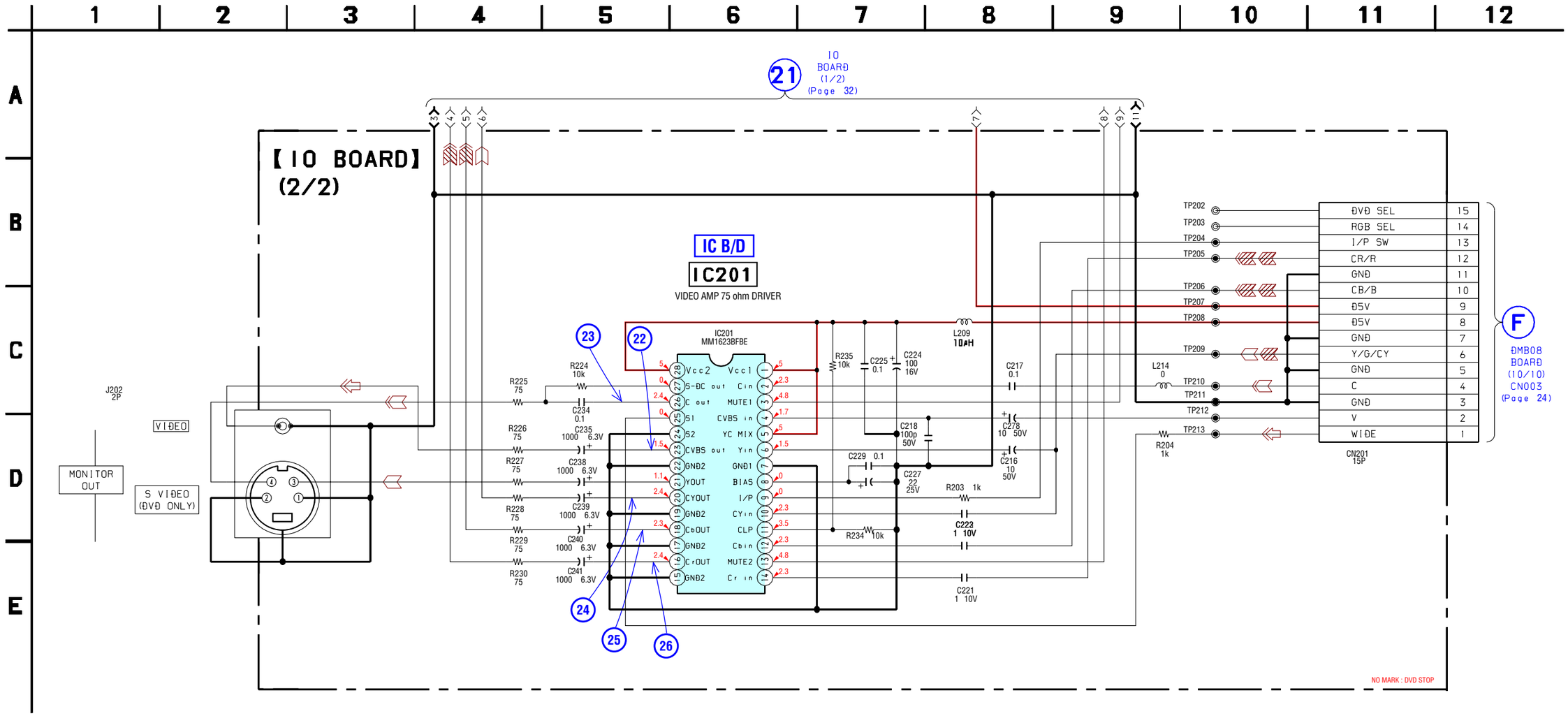
• **Semiconductor Location**

Ref. No.	Location
IC201	B-6
IC602	F-2
IC603	A-7
IC605	F-3
IC606	E-6
Q101	A-7
Q102	B-1
Q604	F-6
Q605	F-6
Q606	F-3
Q607	F-6

3-24. SCHEMATIC DIAGRAM — IO BOARD (1/2) —



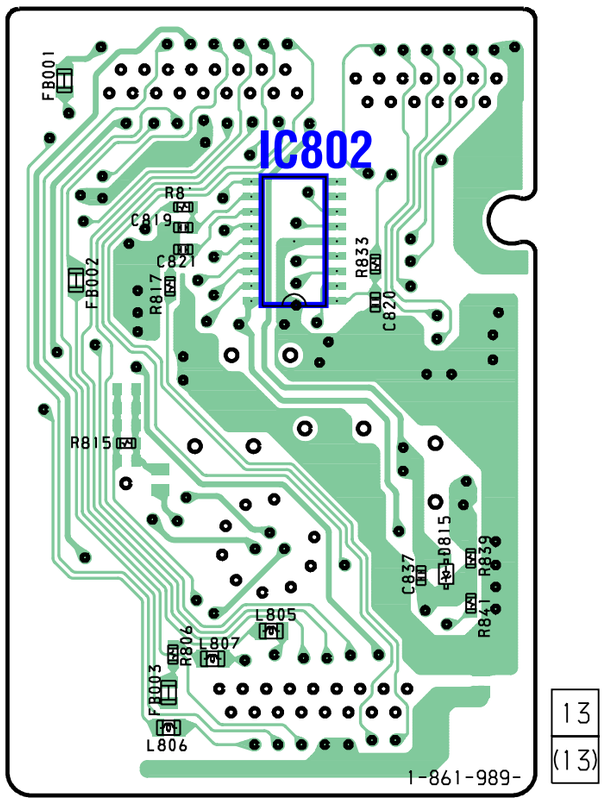
3-25. SCHEMATIC DIAGRAM — IO BOARD (2/2) —



3-26. PRINTED WIRING BOARD — DDCON BOARD —

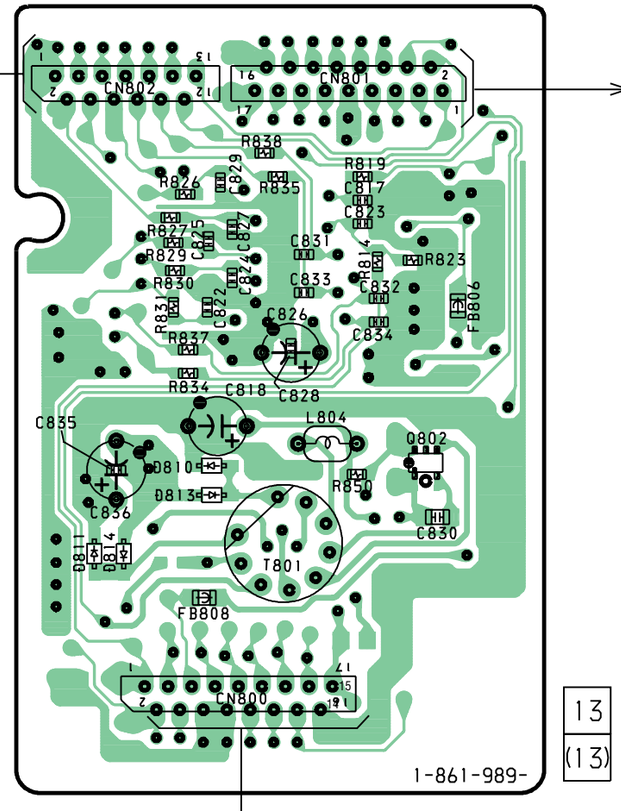
• See page 7 for Circuit Boards Location. :Uses unleaded solder.

【ÐÐCON BOARÐ】(SIÐE A)



13
(13)

【ÐÐCON BOARÐ】(SIÐE B)



13
(13)

P DISC KEY BOARD CN804 (Page 39)

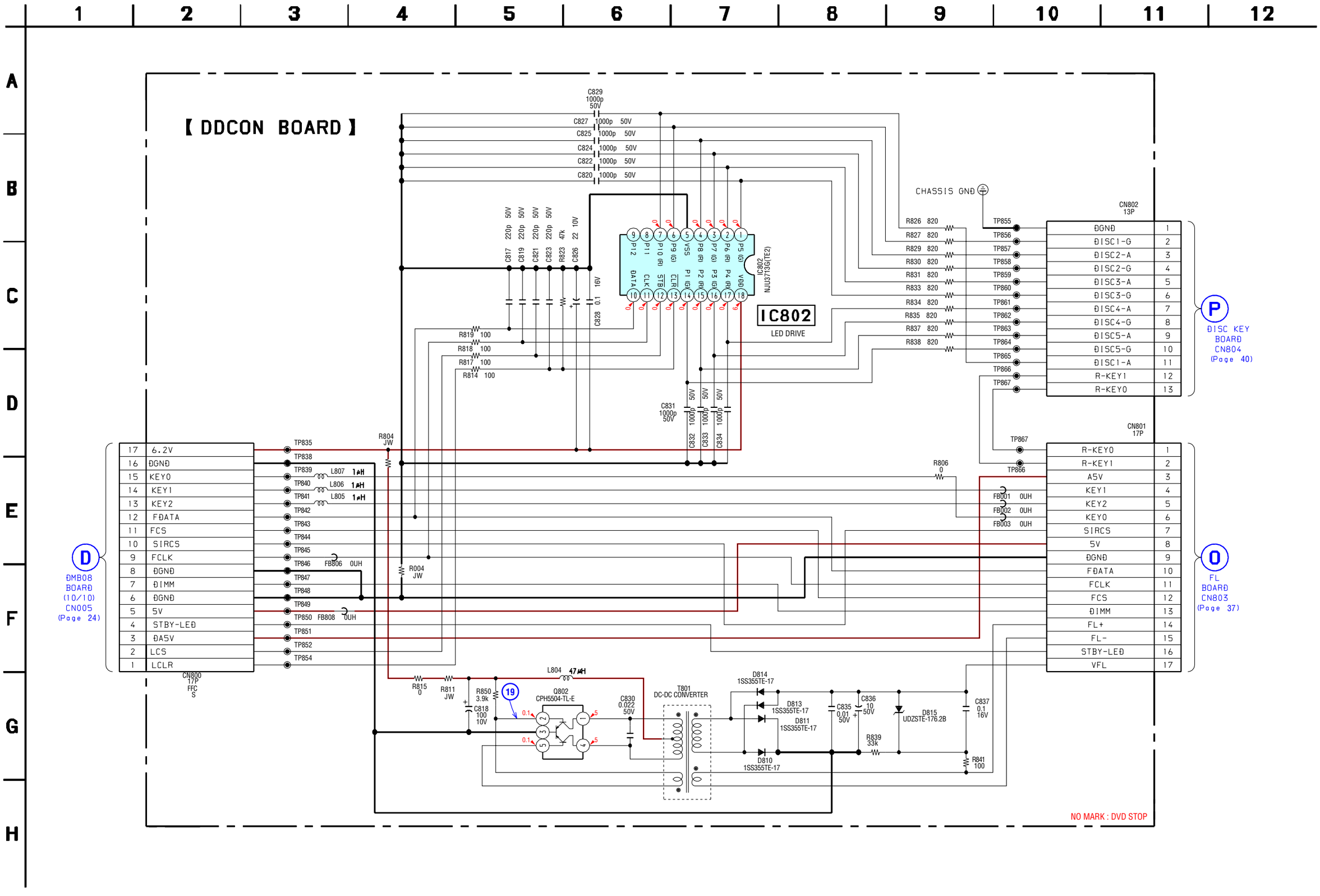
0 FL BOARD CN803 (Page 36)

D DMB08 BOARD CN005 (Page 13)

- **Semiconductor Location**

Ref. No.	Location
D810	C-5
D811	C-5
D813	C-5
D814	C-5
D815	C-3
IC802	A-2
Q802	C-6

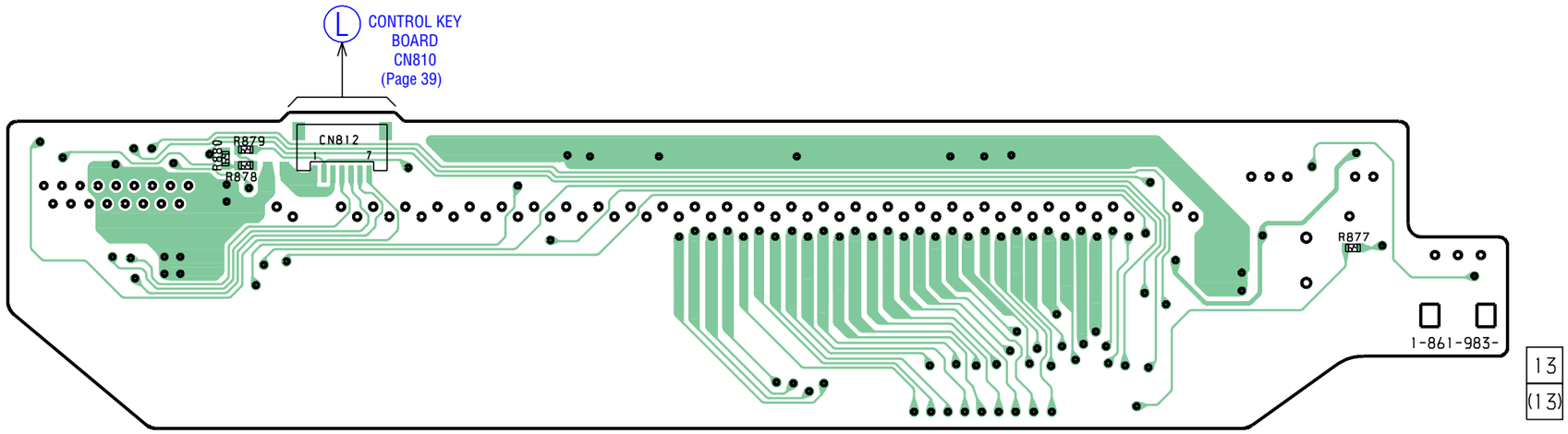
3-27. SCHEMATIC DIAGRAM — DDCON BOARD —



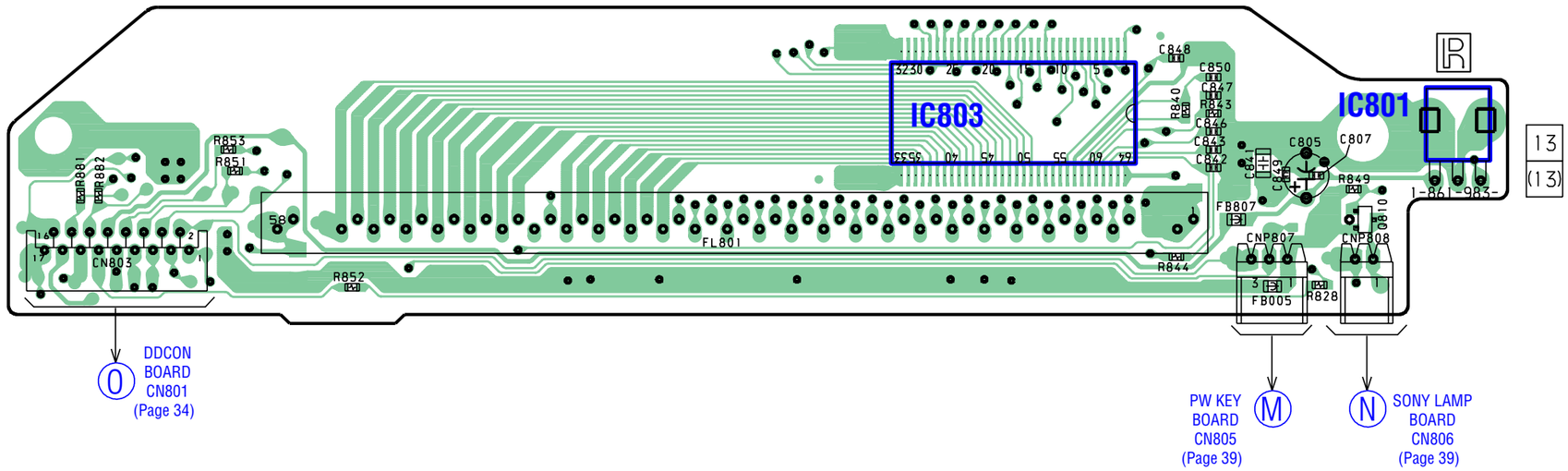
3-28. PRINTED WIRING BOARD — FL BOARD —

• See page 7 for Circuit Boards Location. :Uses unleaded solder.

【FL BOARD】(SIDE A)



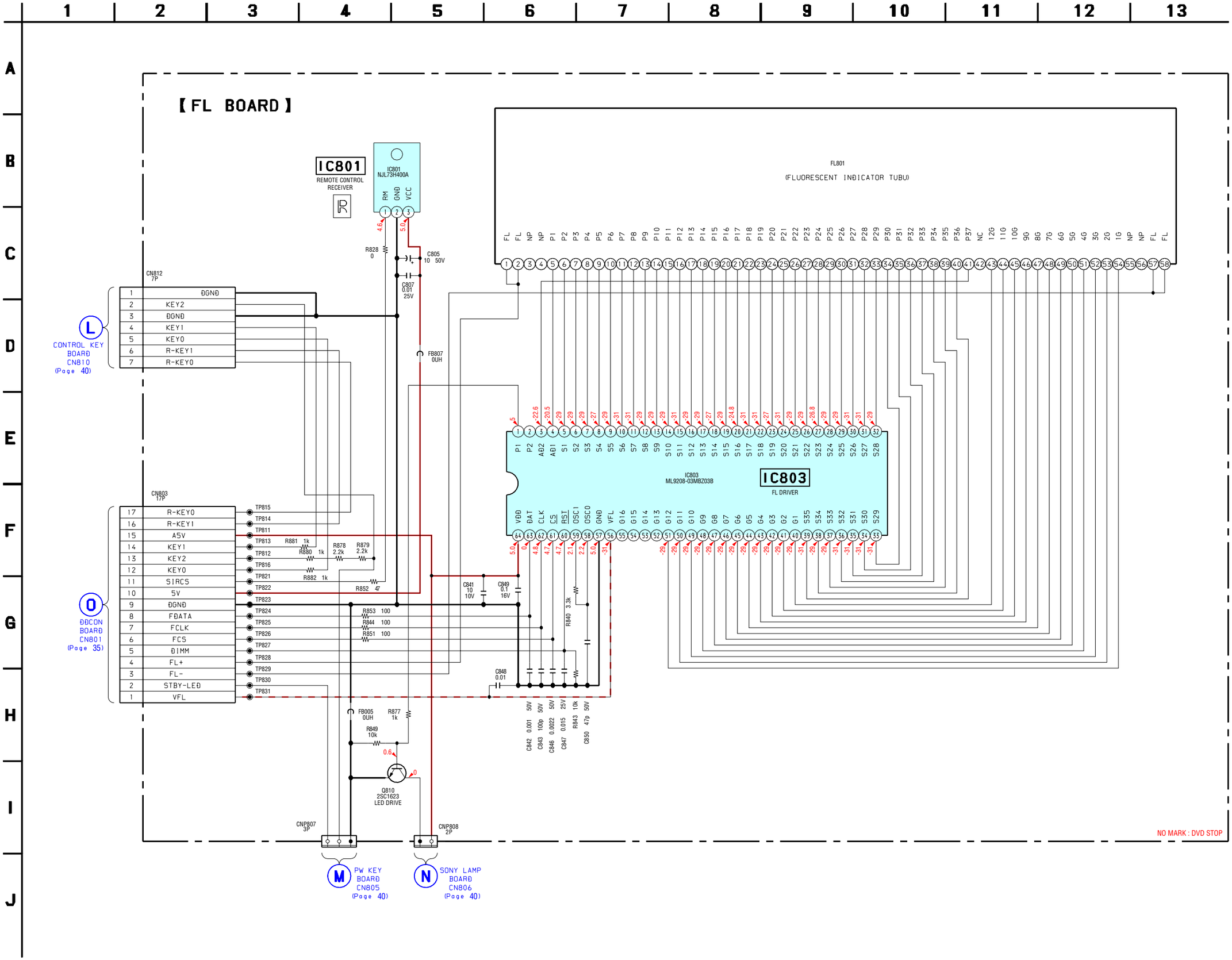
【FL BOARD】(SIDE B)



• **Semiconductor Location**

Ref. No.	Location
IC801	D-7
IC803	D-5
Q810	D-7

3-29. SCHEMATIC DIAGRAM — FL BOARD —

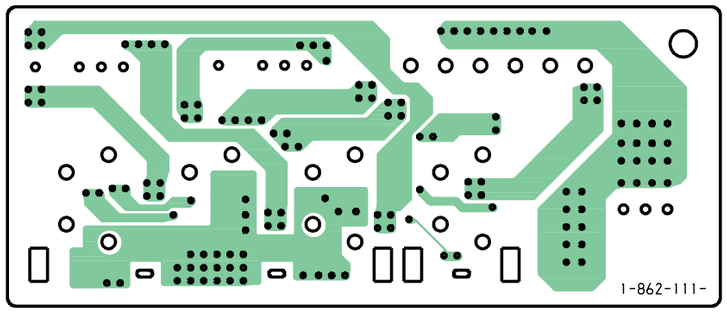


3-30. PRINTED WIRING BOARD — SPK BOARD —

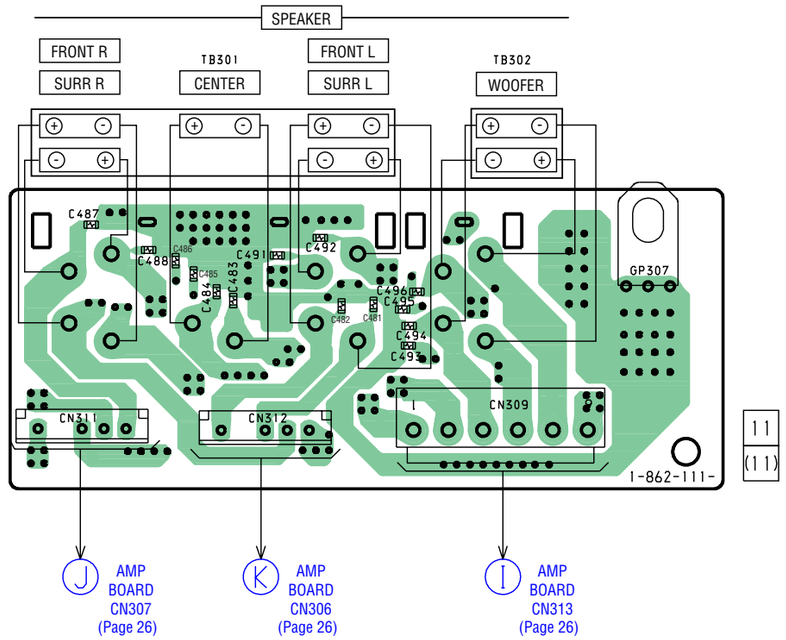
• See page 7 for Circuit Boards Location.

:Uses unleaded solder.

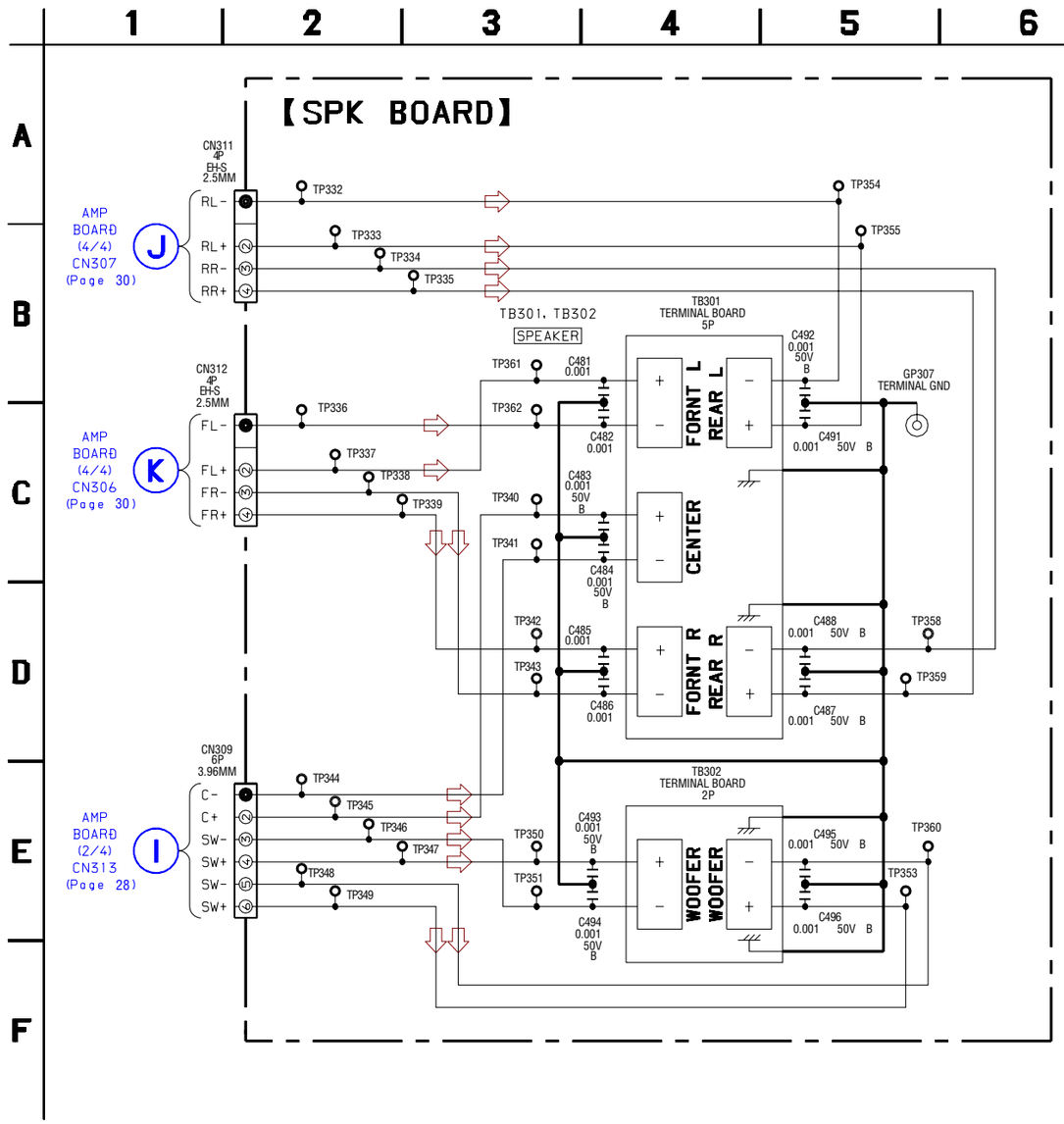
【SPK BOARD】(SIDE A)



【SPK BOARD】(SIDE B)



3-31. SCHEMATIC DIAGRAM — SPK BOARD —

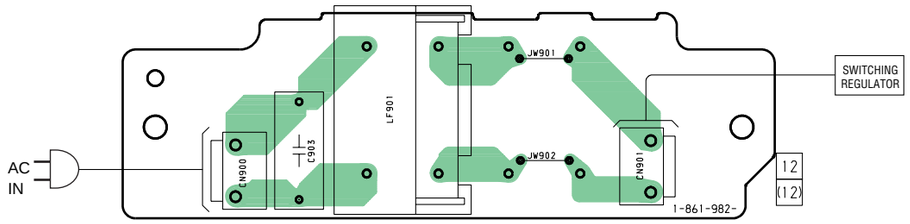


3-32. PRINTED WIRING BOARD — POWER/FRONT PANEL SECTION —

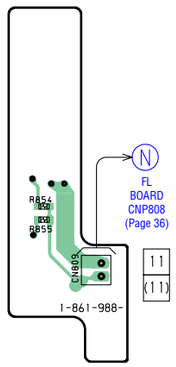
• See page 7 for Circuit Boards Location. :Uses unleaded solder.

☆ The TACTILE SWITCH (S800-818) on CONTROL KEY board, DISC KEY board and PW KEY board are depending on a suffix of each board. Please refer to SUPPLEMENT-3 of this manual at the time of replacement.

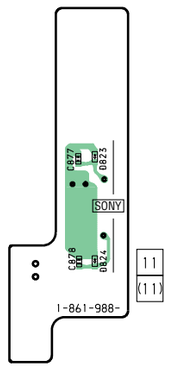
【LF BOARD】



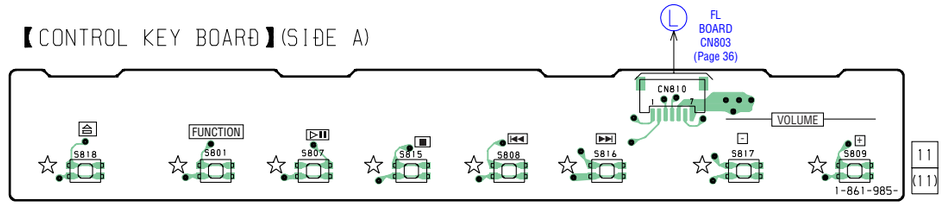
【SONY LAMP BOARD】(SIDE B)



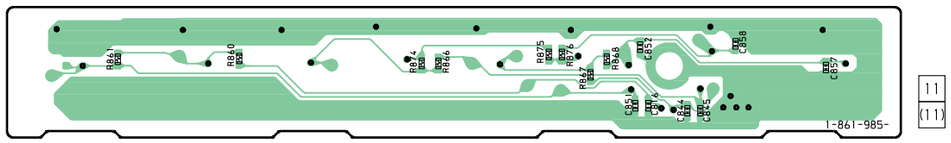
【SONY LAMP BOARD】(SIDE A)



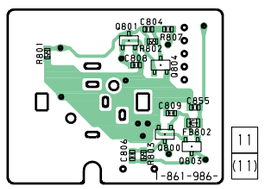
【CONTROL KEY BOARD】(SIDE A)



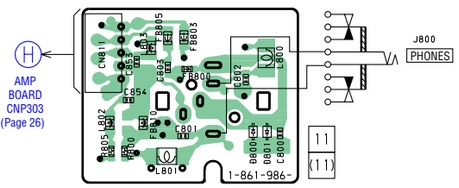
【CONTROL KEY BOARD】(SIDE B)



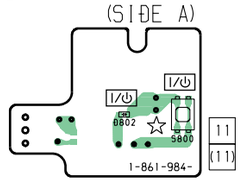
【HP BOARD】(SIDE A)



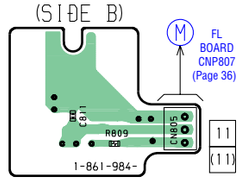
【HP BOARD】(SIDE B)



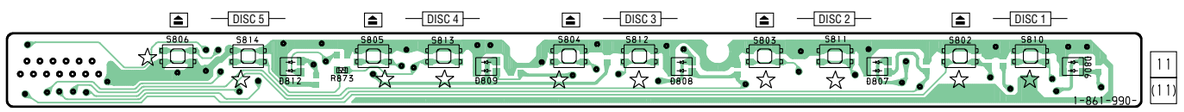
【PW KEY BOARD】(SIDE A)



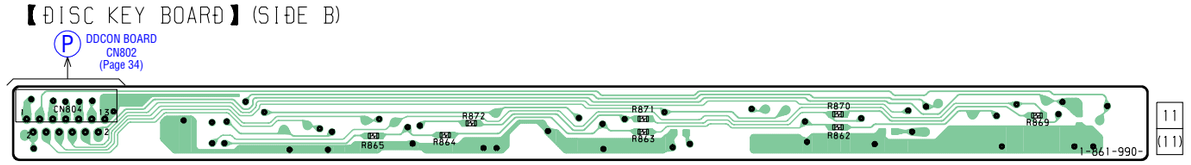
【PW KEY BOARD】(SIDE B)



【DISC KEY BOARD】(SIDE A)



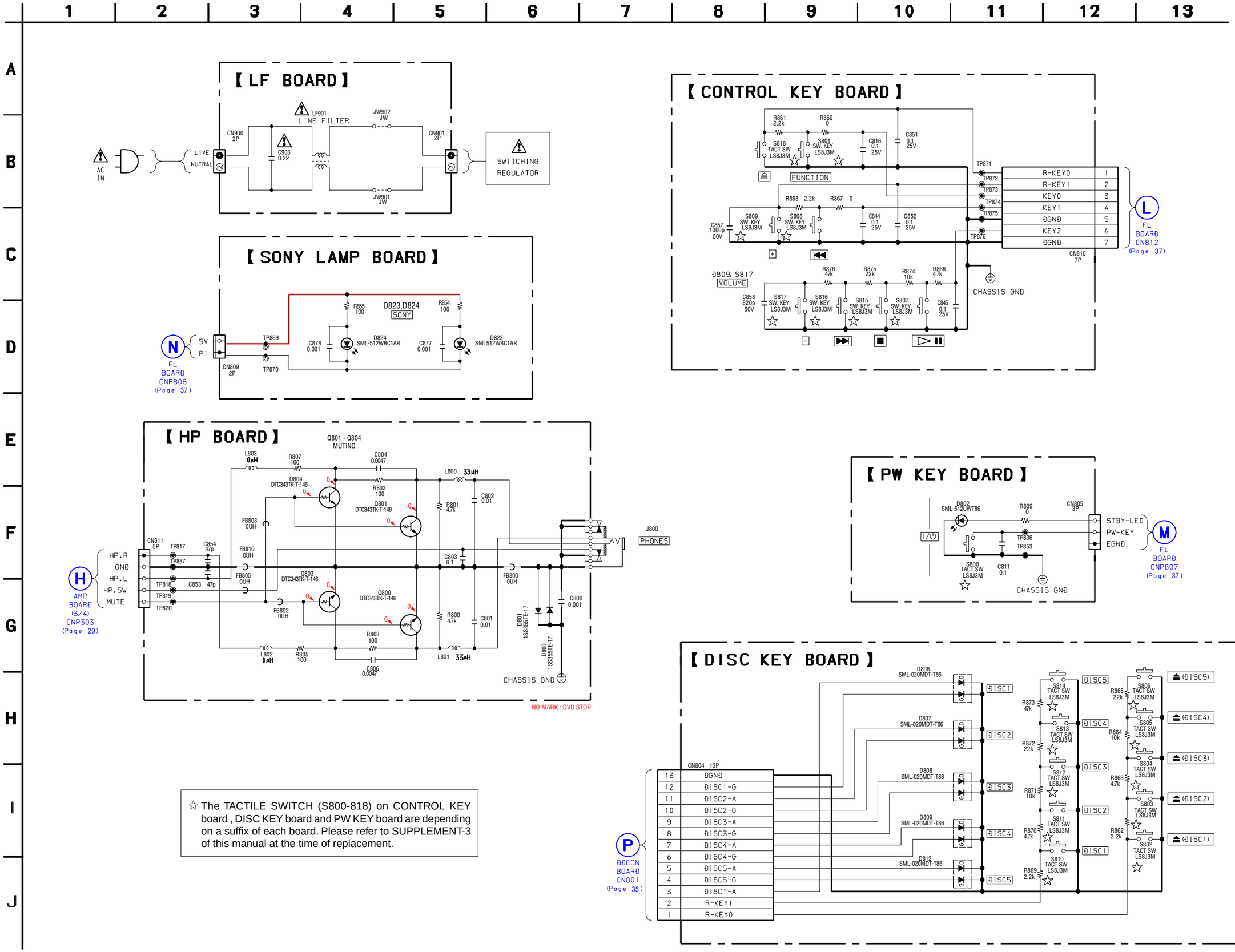
【DISC KEY BOARD】(SIDE B)



- **Semiconductor Location**

Ref. No.	Location
D800	G-5
D801	G-5
D802	G-9
D806	H-13
D807	H-11
D808	H-10
D809	H-9
D812	H-8
D823	D-5
D824	E-5
Q800	F-3
Q801	F-3
Q803	G-3
Q804	G-3

3-33. SCHEMATIC DIAGRAM — POWER/FRONT PANEL SECTION —



☆ The TACTILE SWITCH (S800-818) on CONTROL KEY board , DISC KEY board and PW KEY board are depending on a suffix of each board. Please refer to SUPPLEMENT-3 of this manual at the time of replacement.

SECTION 4
EXPLODED VIEWS

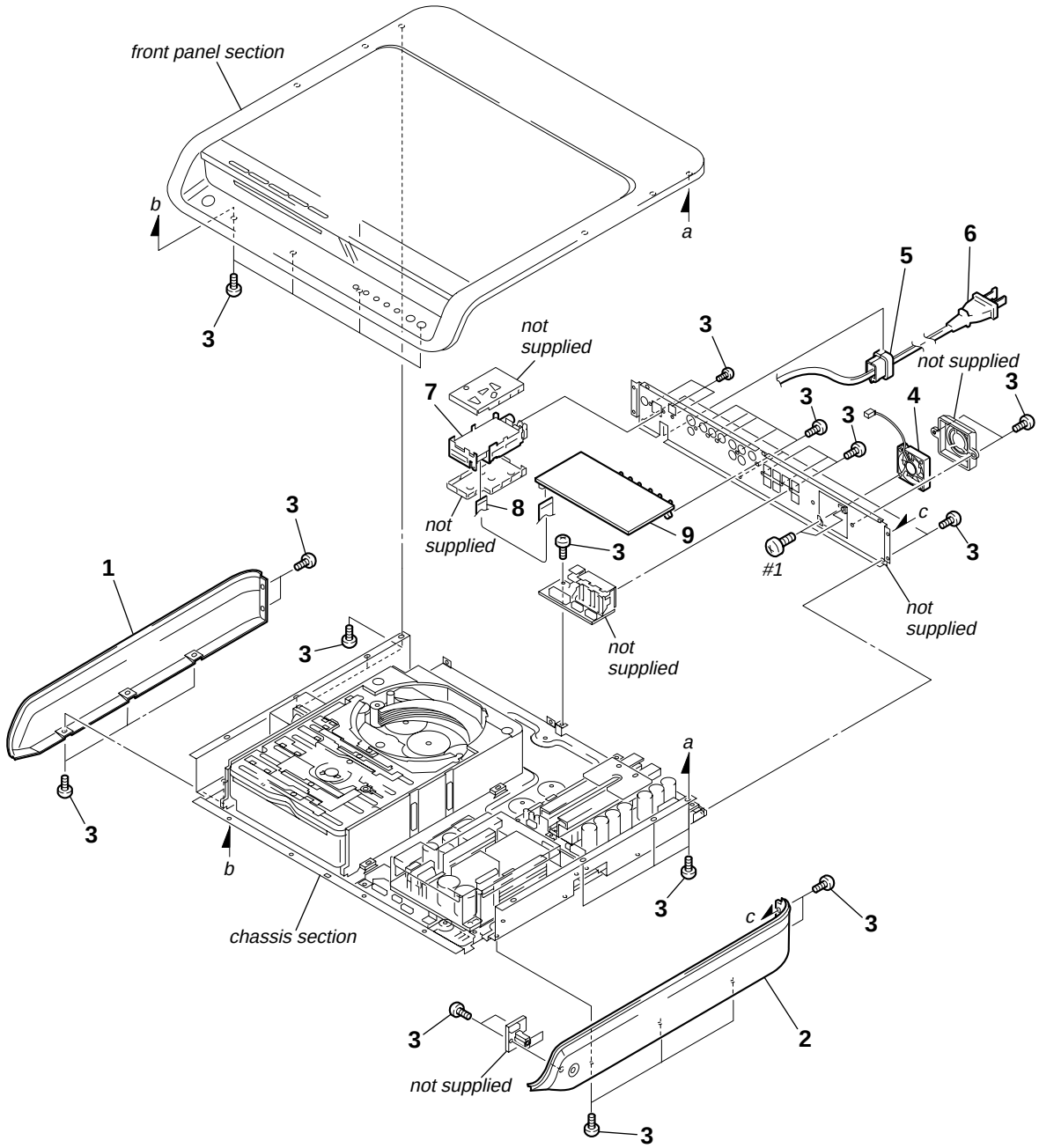
NOTE:

- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

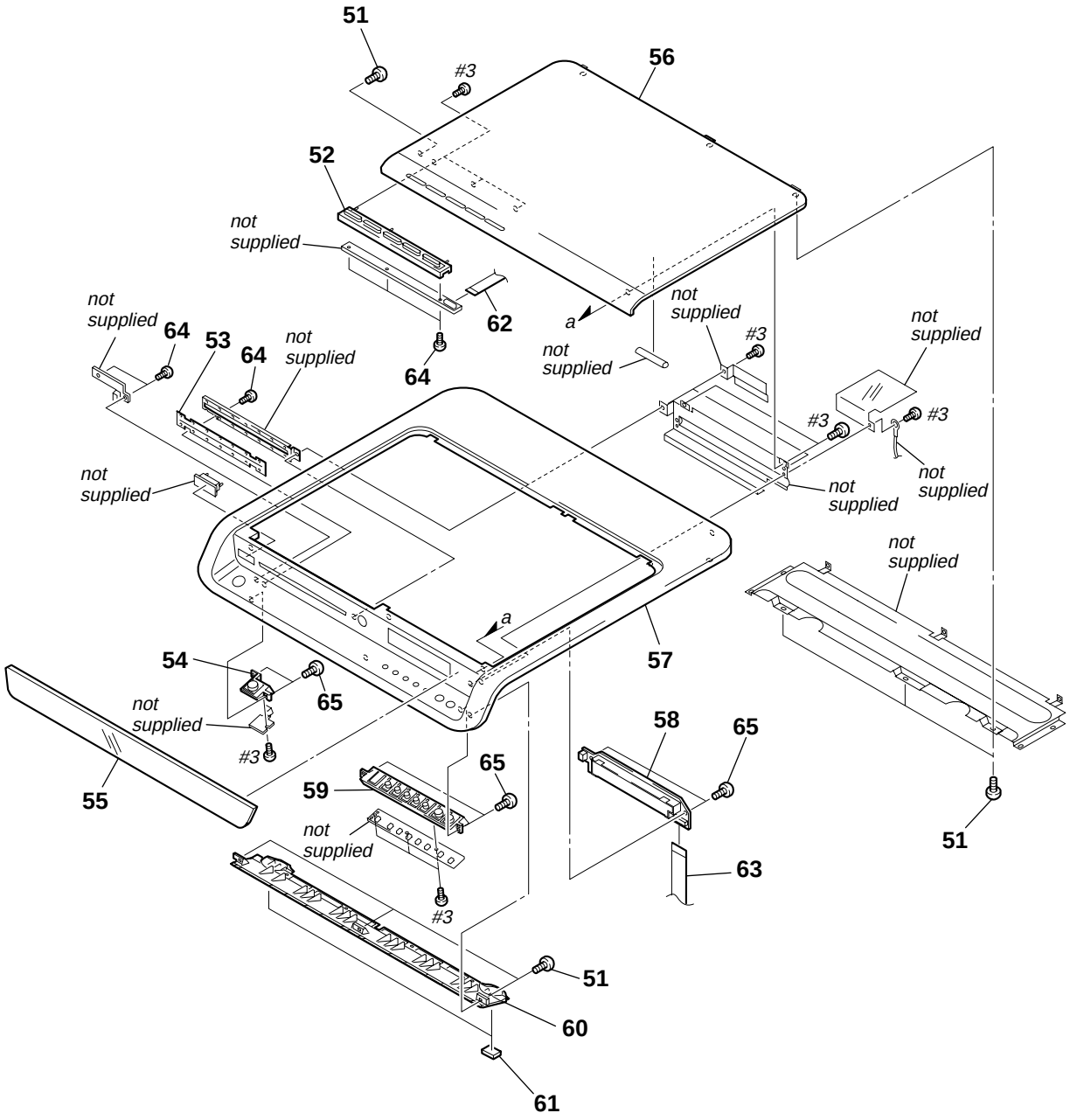
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

4-1. CASE SECTION



Ref. No.	Part No.	Description	Remark
1	4-253-911-01	PANEL (L), SIDE	
2	4-253-912-01	PANEL (R), SIDE	
3	3-077-331-01	+BV3 (3-CR)	
4	1-763-861-12	FAN, DC	
5	4-217-350-11	STOPPER, CORD	
⚠6	1-783-531-72	CORD, POWER	
7	A-4750-572-A	TUNER UNIT	
8	1-828-962-11	WIRE (FLAT TYPE) (11 CORE)	
9	A-4751-753-A	IO BOARD, COMPLETE	
#1	7-685-881-09	SCREW +BVTT4X8 (S)	

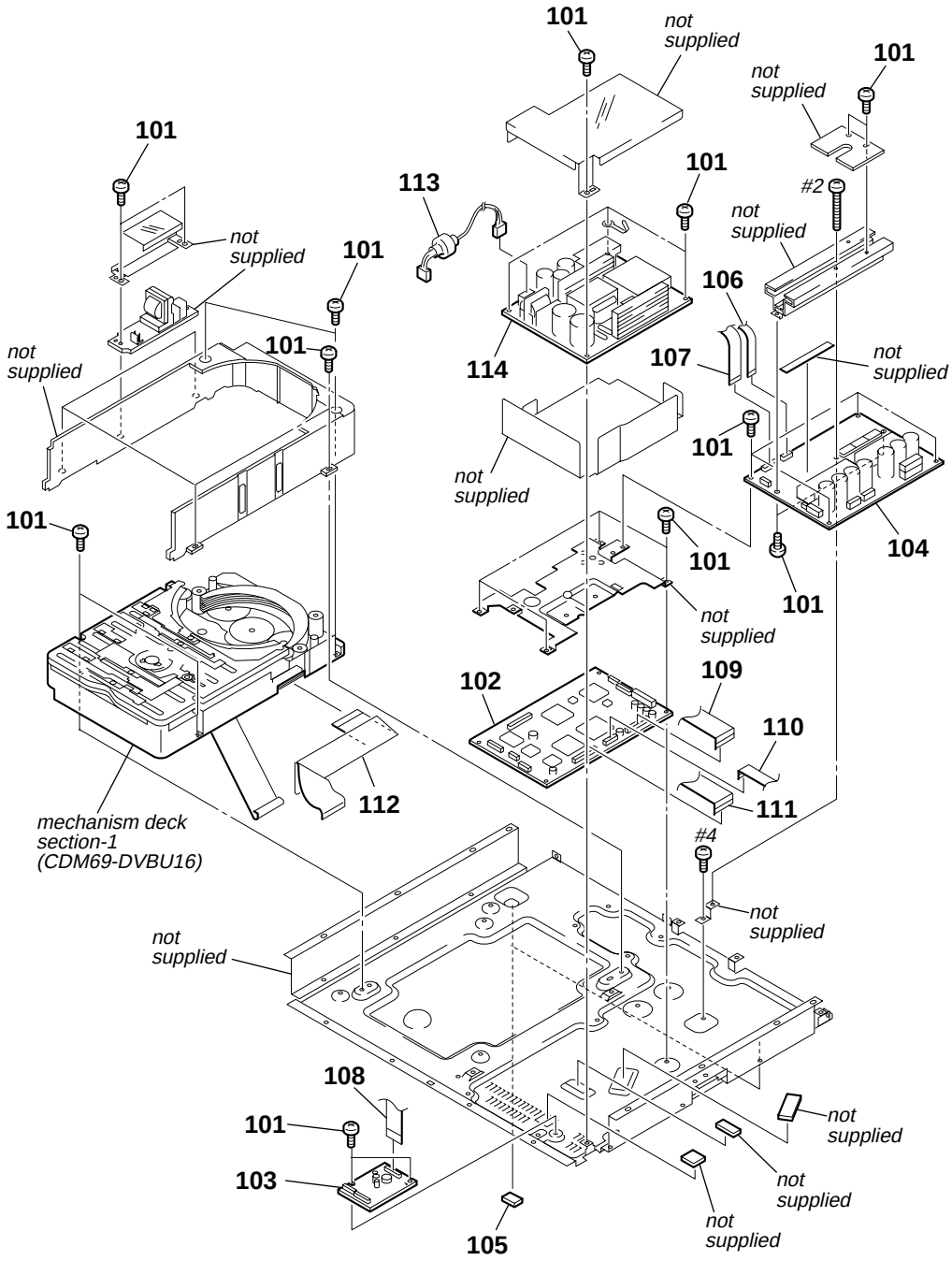
4-2. FRONT PANEL SECTION



Ref. No.	Part No.	Description	Remark
51	3-077-331-21	+BV3 (3-CR)	
52	X-4956-316-1	BUTTON SUB ASSY, DISC	
53	4-253-902-01	CUSHION, SLOT	
54	X-4956-308-1	BUTTON (POWER) SUB ASSY	
55	X-4956-319-1	WINDOW SUB ASSY	
56	4-253-918-01	PANEL (AL), FRONT	
57	4-253-910-01	PANEL (ML), FRONT (FR1)	
57	4-253-910-11	PANEL (ML), FRONT (FR8)	
57	4-253-910-21	PANEL (ML), FRONT (FR9)	

Ref. No.	Part No.	Description	Remark
58	A-4751-757-A	FL BOARD, COMPLETE	
59	X-4956-315-1	BUTTON SUB ASSY, PLAY	
60	4-253-909-01	PANEL, BOTTOM	
61	4-232-478-31	FOOT	
62	1-829-320-11	FLEXIBLE FLAT CABLE (13 CORE)	
63	1-829-321-11	FLEXIBLE FLAT CABLE (17 CORE)	
64	4-931-757-31	SCREW (DIA.2.6X8) (IT3B), TAPPING	
65	7-685-133-19	SCREW +P2.6X6, TYPE 2	
#3	7-685-133-19	SCREW +P2.6X6 TYPE2	

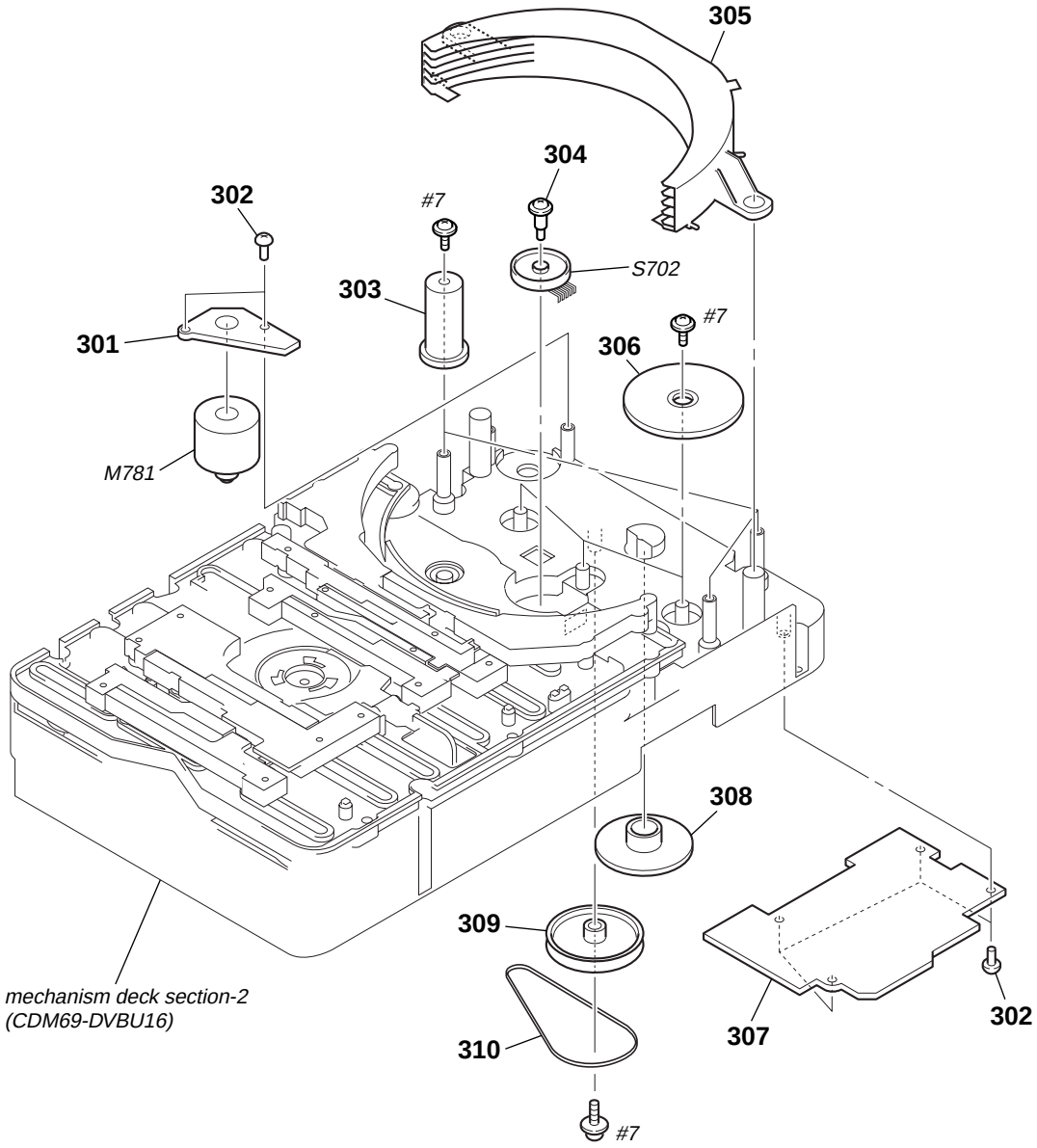
4-3. CHASSIS SECTION



Ref. No.	Part No.	Description	Remark
101	3-077-331-01	+BV3 (3-CR)	
102	A-4751-785-A	DMB08 BOARD, COMPLETE (FR1)	
102	A-4753-404-A	DMB08 BOARD, COMPLETE (FR8)	
102	A-4753-472-A	DMB08 BOARD, COMPLETE (FR9)	
103	A-4751-769-A	DDCON BOARD, COMPLETE	
104	A-4751-783-A	AMP BOARD, COMPLETE (FR1)	
104	A-4753-468-A	AMP BOARD, COMPLETE (FR8)	
104	A-4753-478-A	AMP BOARD, COMPLETE (FR9)	
105	4-232-478-31	FOOT	
106	1-829-322-11	FLEXIBLE FLAT CABLE (9 CORE)	
107	1-829-319-11	FLEXIBLE FLAT CABLE (17 CORE)	
108	1-828-349-11	WIRE (FLAT TYPE) (17 CORE)	
109	1-829-323-11	FLEXIBLE FLAT CABLE (29 CORE)	
110	1-829-326-11	FLEXIBLE FLAT CABLE (15 CORE)	
111	1-829-325-11	FLEXIBLE FLAT CABLE (29 CORE)	
112	1-829-324-11	FLEXIBLE FLAT CABLE (28 CORE)	
113	1-500-657-11	CORE, FERRIET	
⚠114	1-468-838-11	REGULATOR, SWITCHING	
#2	7-685-650-79	SCREW +BVTP3X16 TYPE2 IT-3	
#4	7-621-775-10	SCREW +B2.6X4	

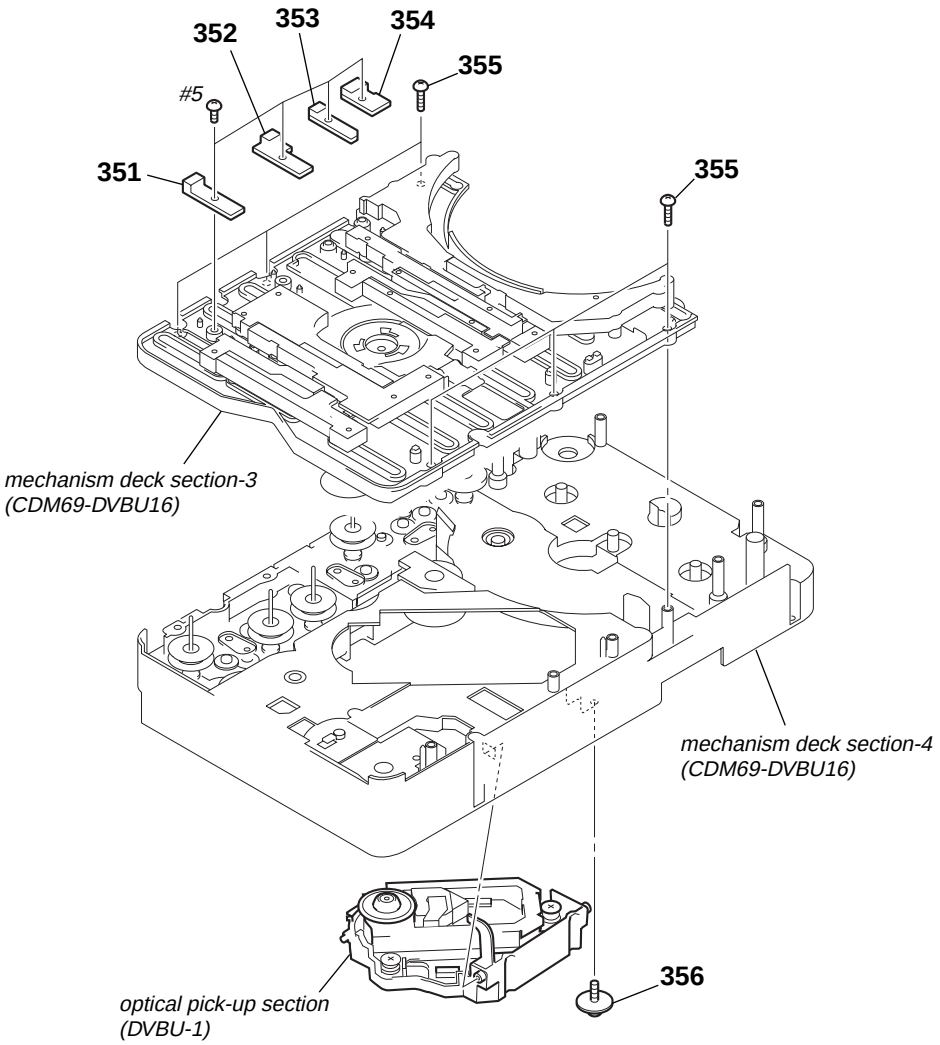
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

4-4. MECHANISM DECK SECTION-1 (CDM69-DVBU16)



Ref. No.	Part No.	Description	Remark
301	1-685-006-11	STOCKER MOTOR BOARD	
302	4-951-620-01	SCREW (2.6X8), +BVTP	
303	4-239-690-01	CAM (STOCKER U/D)	
304	4-239-618-01	SCREW (+PWH, 2X6), STEP TAPPING	
305	X-4954-628-1	STOCKER ASSY	
306	4-239-687-01	GEAR (STOCKER COMMUNICATION)	
307	A-4728-700-A	RELAY BOARD, COMPLETE	
308	4-239-689-01	GEAR (STOCKER DECELERATION)	
309	4-239-698-01	PULLEY (STOCKER)	
310	4-240-035-01	BELT (STOCKER)	
M781	A-4735-953-A	MOTOR (STOCKER) ASSY (STOCKER)	
S702	1-477-299-11	ENCODER, ROTARY (STOCKER POSITION)	
#7	7-685-902-21	SCREW +PTPWH 2.6X8 (TYPE2)	

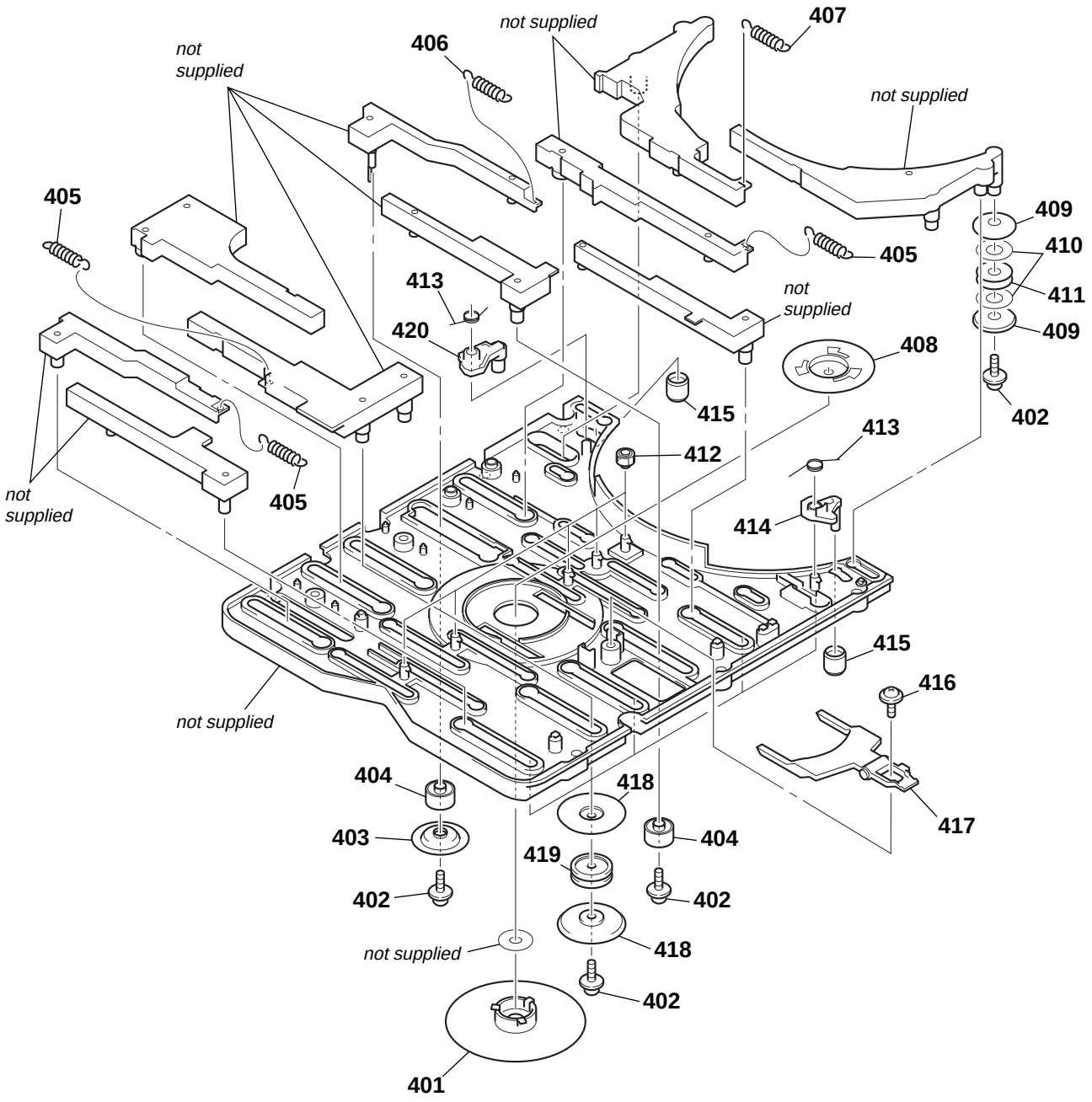
4-5. MECHANISM DECK SECTION-2 (CDM69-DVBU16)



Ref. No.	Part No.	Description	Remark
351	1-685-008-11	SW (1) BOARD	
352	1-685-009-11	SW (2) BOARD	
353	1-685-010-11	SW (3) BOARD	
354	1-685-011-11	SW (4) BOARD	

Ref. No.	Part No.	Description	Remark
355	4-951-620-01	SCREW (2.6X8), +BVTP	
356	4-985-672-01	SCREW (+PTPWHM 2.6), FLOATING	
#5	7-685-533-14	SCREW +BTP 2.6X6 TYPE2 N-S	

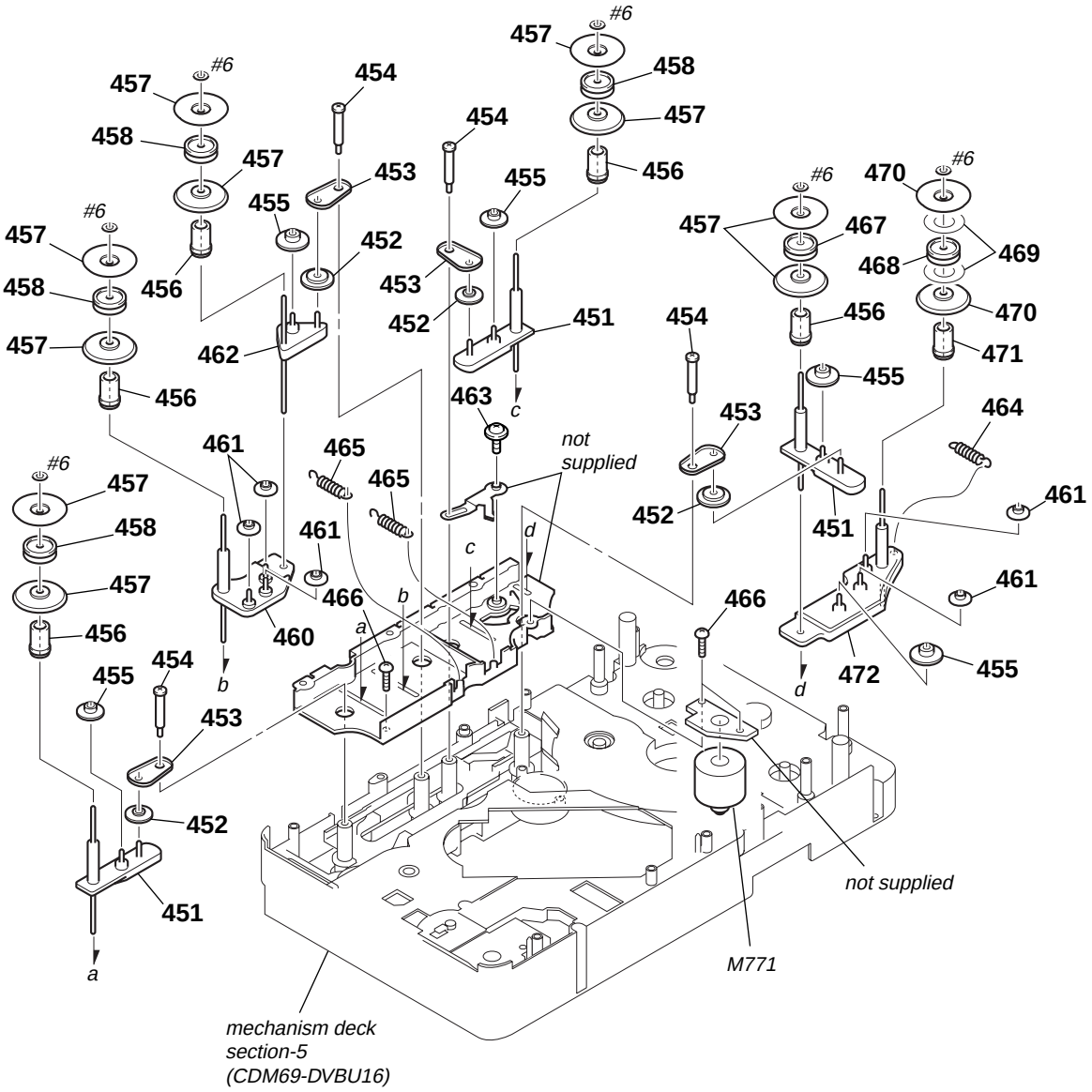
4-6. MECHANISM DECK SECTION-3 (CDM69-DVBU16)



Ref. No.	Part No.	Description	Remark
401	4-240-038-01	PULLEY (A), CHUCKING	
402	4-992-069-01	SCREW (+PTPWH) (M2) (DIA. 7)	
403	4-239-648-01	PARASOL (ROLLER)	
404	4-239-646-01	ROLLER (ROLLER)	
405	4-239-641-01	SPRING (1.2), TENSION	
406	4-239-642-01	SPRING (3), TENSION COIL	
407	4-239-679-01	SPRING (5), TENSION COIL	
408	4-240-037-01	PULLEY (B), CHUCKING	
409	4-239-649-01	PARASOL (STOCKER)	
410	4-241-209-01	SHEET, ADHESIVE	

Ref. No.	Part No.	Description	Remark
411	4-239-651-01	ROLLER (STOCKER), RUBBER	
412	4-239-640-01	PINION (SLIDER)	
413	4-240-040-01	SPRING (DISC STOPPER), TORSION	
414	4-240-039-01	LEVER (DISC STOPPER)	
415	4-239-702-01	ROLLER (DISC STOPPER)	
416	4-985-672-01	SCREW (+PTPWHM 2.6), FLOATING	
417	4-239-650-01	LEVER (LIFTER)	
418	4-239-647-01	PARASOL (MAIN)	
419	4-239-645-01	ROLLER, RUBBER	
420	4-241-599-01	LEVER (SUPPORT)	

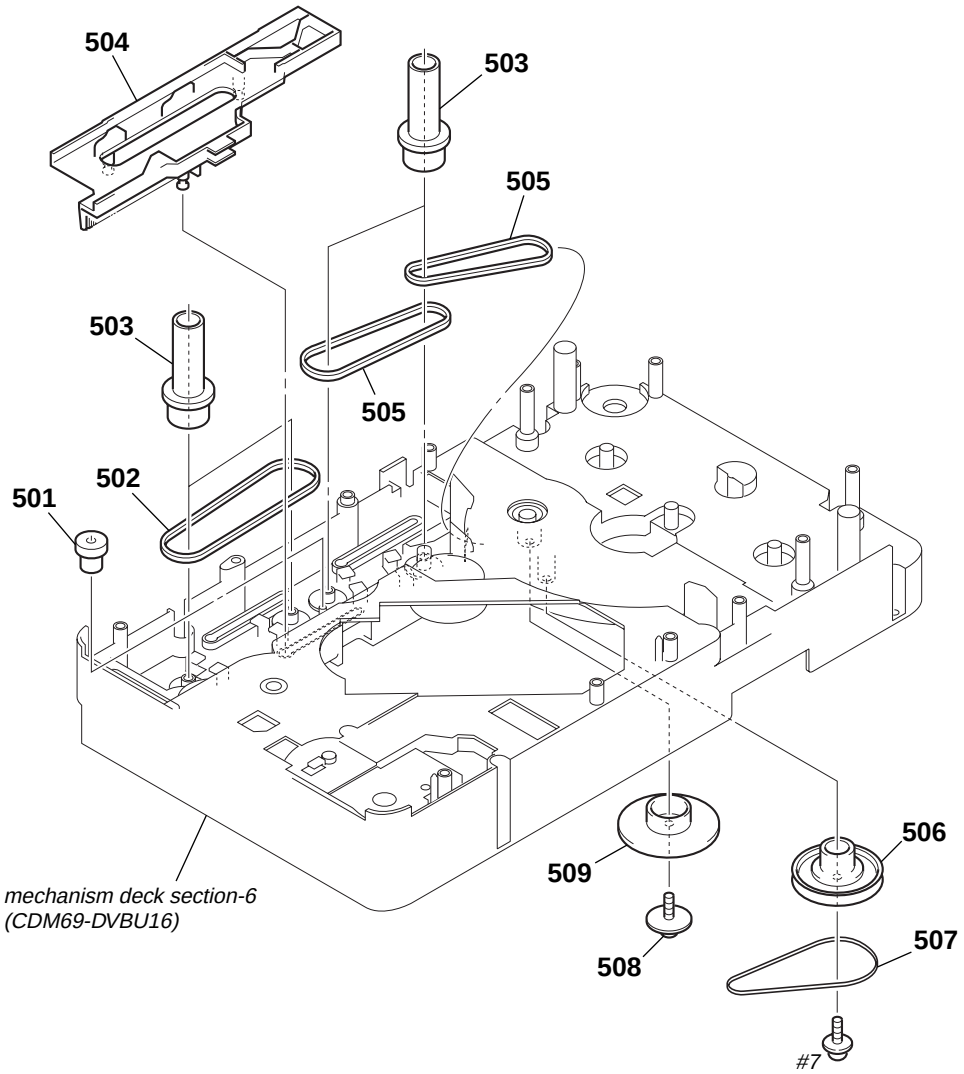
4-7. MECHANISM DECK SECTION-4 (CDM69-DVBU16)



Ref. No.	Part No.	Description	Remark
451	X-4954-626-1	LEVER (ROLLER) ASSY	
452	4-239-666-01	GEAR	
453	4-239-668-01	LEVER (CENTER)	
454	4-239-652-01	SCREW (ROLLER), STEP	
455	4-239-669-01	GEAR (ROLLER COMMUNICATION)	
456	4-239-667-01	GEAR (ROLLER CENTER)	
457	4-239-647-01	PARASOL (MAIN)	
458	4-239-645-01	ROLLER, RUBBER	
460	X-4954-622-1	BASE (SLIDER 2) ASSY	
461	4-239-670-01	GEAR (ROLLER 5 COMMUNICATION)	
462	X-4954-624-A	LEVER (SLIDER 4) ASSY	
463	4-992-069-01	SCREW (+PTPWH) (M2) (DIA. 7)	

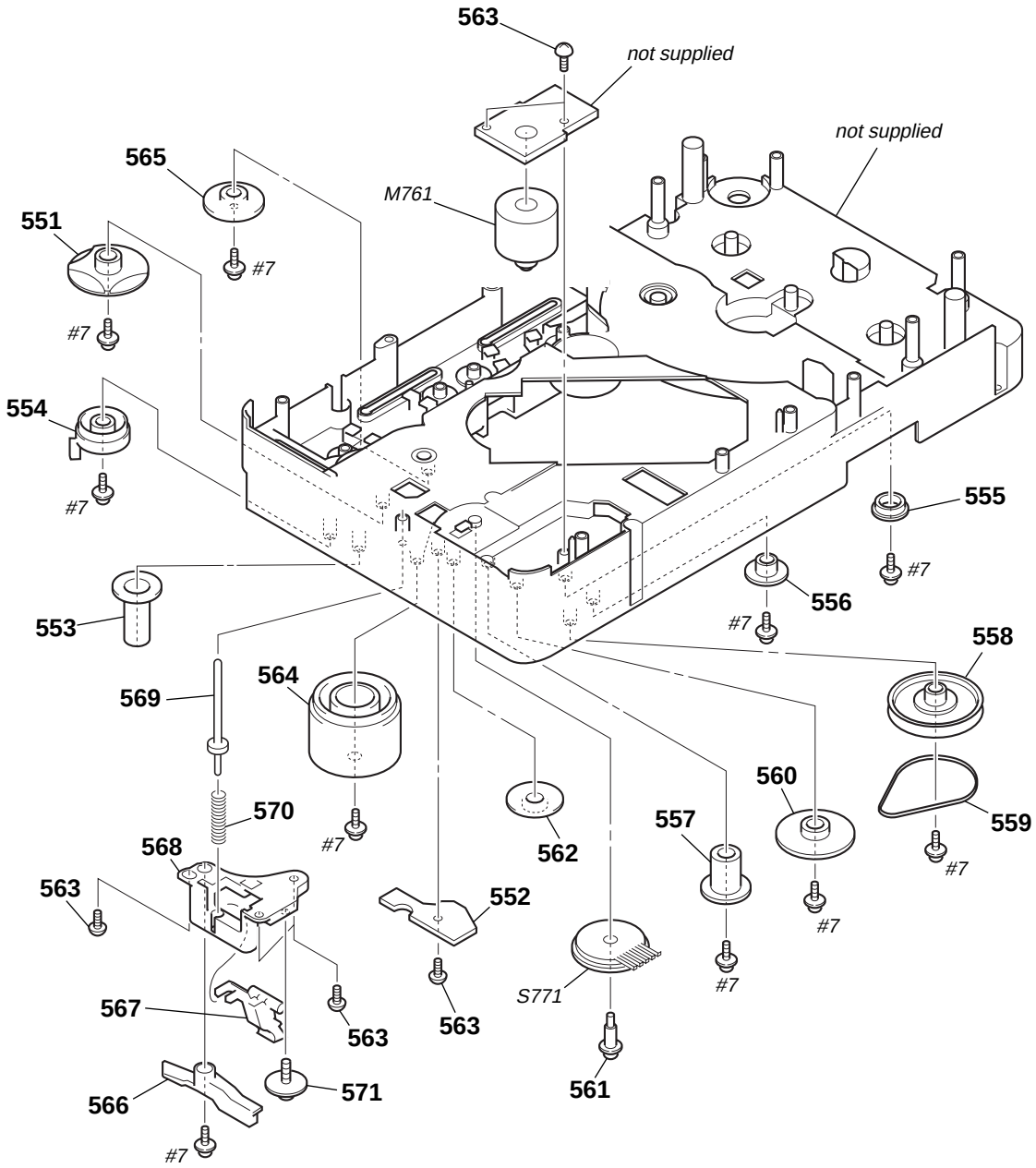
Ref. No.	Part No.	Description	Remark
464	4-240-981-01	SPRING (BASE SLIDER 5),TENSION	
465	4-240-041-01	SPRING (SLIDER 2), TENSION	
466	4-951-620-01	SCREW (2.6X8), +BVTP	
467	4-241-467-01	ROLLER (S), RUBBER	
468	4-239-651-01	ROLLER (STOCKER) RUBBER	
469	4-241-209-01	SHEET, ADHESIVE	
470	4-239-649-01	PARASOL (STOCKER)	
471	4-239-671-01	GEAR (ROLLER 5 CENTER)	
472	X-4954-627-1	BASE (SLIDER 5) ASSY	
M771	A-4735-953-A	MOTOR (STOCKER) ASSY (ROLLER)	
#6	7-623-921-01	WASHER 1.7, NYRON	

4-8. MECHANISM DECK SECTION-5 (CDM69-DVBU16)



Ref. No.	Part No.	Description	Remark
501	4-240-020-01	GEAR (TIMING)	
502	4-239-708-01	BELT (FRONT), TIMING	
503	4-239-697-01	GEAR (CENTER)	
504	X-4954-629-1	SLIDER (MODE CAM) ASSY	
505	4-239-706-01	BELT (REAR), TIMING	
506	4-239-699-01	PULLEY	
507	4-239-681-01	BELT (ROLLER)	
508	4-227-899-01	SCREW (DIA. 12), FROATING	
509	4-239-686-01	GEAR (ROLLER DECELERATION)	
#7	7-685-902-21	SCREW +PTPWH 2.6X8 (TYPE2)	

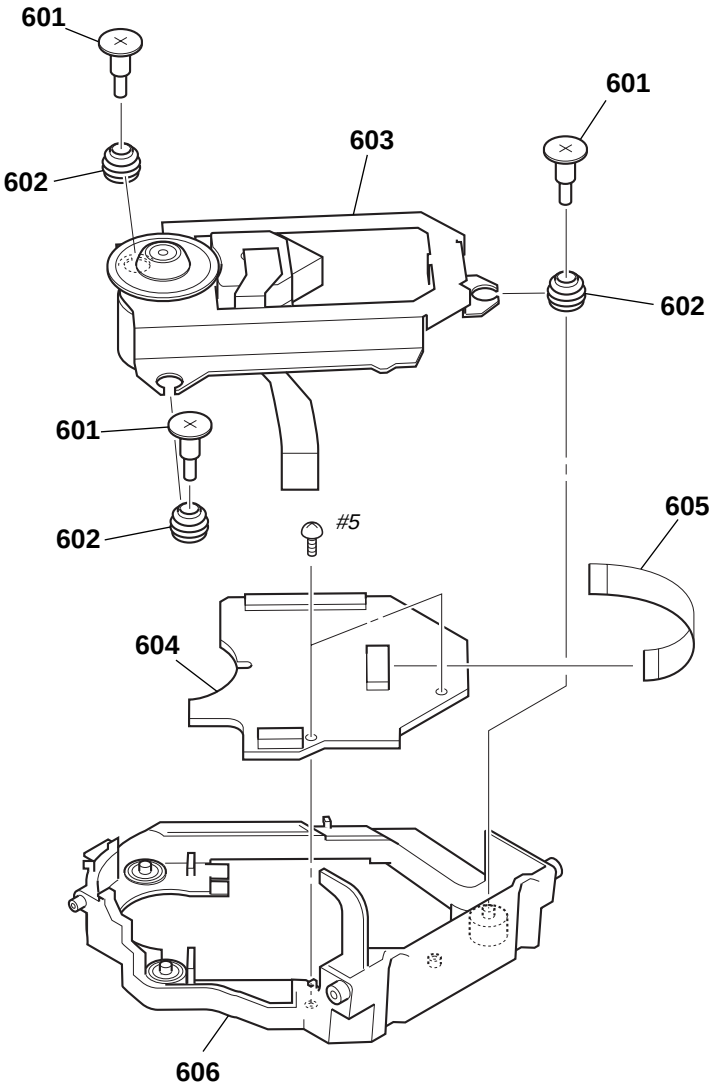
4-9. MECHANISM DECK SECTION-6 (CDM69-DVBU16)



Ref. No.	Part No.	Description	Remark
551	4-239-693-01	CAM (GEAR)	
552	1-685-004-11	SENSOR BOARD	
553	4-239-696-01	GEAR (EJECT LOCK)	
554	4-239-695-02	CAM (EJECT LOCK)	
555	4-240-018-01	GEAR (MODE 4)	
556	4-240-019-01	GEAR (MODE 5)	
557	4-239-700-01	GEAR (MODE 2)	
558	4-239-683-01	PULLEY (MODE DECELERATION)	
559	4-239-682-01	BELT (MODE)	
560	4-239-688-01	GEAR (MODE 3)	
561	4-239-618-01	SCREW (+PWH, 2X6), STEP TAPPING	
562	4-239-684-01	GEAR (MODE 1)	

Ref. No.	Part No.	Description	Remark
563	4-951-620-01	SCREW (2.6X8), +BVTP	
564	4-239-692-01	CAM (BU U/D)	
565	4-239-694-01	GEAR (MODE CAM)	
566	4-241-731-01	SHUTTER (A), LEVER	
567	4-241-732-01	SHUTTER (B), LEVER	
568	4-241-733-01	BASE (SHUTTER)	
569	4-241-734-01	SHAFT (SHUTTER)	
570	4-241-735-01	SPRING (SHUTTER), COMPRESSION	
571	4-227-899-01	SCREW (DIA.12), FLOATING	
M761	A-4735-953-A	MOTOR (STOCKER) ASSY (MODE)	
S771	1-477-300-11	ENCODER, ROTARY (MODE)	
#7	7-685-902-21	SCREW +PTPWH 2.6X8 (TYPE2)	

4-10. OPTICAL PICK-UP SECTION (DBU-1)



Ref. No.	Part No.	Description	Remark
601	4-981-923-01	SCREW (M), STEP	
602	3-053-847-31	INSULATOR	
⚠603	1-477-263-11	OPTICAL PICK-UP (DBU-1)	
604	A-4728-690-A	RF BOARD, COMPLETE	
605	1-685-250-11	FLEXIBLE BOARD	
606	4-239-703-01	HOLDER (DBU1)	
#5	7-685-533-14	SCREW +BTP 2.6X6 TYPE2 N-S	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

SECTION 5
ELECTRICAL PARTS LIST

AMP

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- RESISTORS
  All resistors are in ohms.
  METAL: Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F: nonflammable
- CAPACITORS
  uF: µF
- COILS
  uH: µH
- SEMICONDUCTORS
  In each case, u: µ, for example:
  uA. . : µA. . uPA. . : µPA. .
  uPB. . : µPB. . uPC. . : µPC. .
  uPD. . : µPD. .

When indicating parts by reference number, please include the board name.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description			Remark
	A-4751-783-A	AMP BOARD, COMPLETE (FR1)			
	A-4753-468-A	AMP BOARD, COMPLETE (FR8)			
	A-4753-478-A	AMP BOARD, COMPLETE (FR9)			
		**********			
		< CAPACITOR >			
C101	1-164-346-11	CERAMIC CHIP	1uF		16V
C102	1-164-346-11	CERAMIC CHIP	1uF		16V
C103	1-164-346-11	CERAMIC CHIP	1uF		16V
C104	1-164-346-11	CERAMIC CHIP	1uF		16V
C105	1-164-346-11	CERAMIC CHIP	1uF		16V
C106	1-164-346-11	CERAMIC CHIP	1uF		16V
C107	1-164-346-11	CERAMIC CHIP	1uF		16V
C111	1-164-346-11	CERAMIC CHIP	1uF		16V
C112	1-164-346-11	CERAMIC CHIP	1uF		16V
C113	1-164-346-11	CERAMIC CHIP	1uF		16V
C114	1-164-346-11	CERAMIC CHIP	1uF		16V
C115	1-164-346-11	CERAMIC CHIP	1uF		16V
C116	1-164-346-11	CERAMIC CHIP	1uF		16V
C117	1-164-346-11	CERAMIC CHIP	1uF		16V
C131	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C132	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C133	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C134	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C135	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C136	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C137	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C138	1-162-923-11	CERAMIC CHIP	47PF	5%	50V
C141	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C142	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C143	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C144	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C145	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C146	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C147	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C148	1-162-923-11	CERAMIC CHIP	47PF	5%	50V
C149	1-162-923-11	CERAMIC CHIP	47PF	5%	50V
C151	1-115-185-11	CERAMIC CHIP	0.033uF	10%	50V
C152	1-115-185-11	CERAMIC CHIP	0.033uF	10%	50V
C153	1-115-185-11	CERAMIC CHIP	0.033uF	10%	50V
C154	1-115-185-11	CERAMIC CHIP	0.033uF	10%	50V
C155	1-115-185-11	CERAMIC CHIP	0.033uF	10%	50V
C156	1-115-185-11	CERAMIC CHIP	0.033uF	10%	50V
C157	1-115-185-11	CERAMIC CHIP	0.033uF	10%	50V
C158	1-126-947-11	ELECT	47uF	20%	10V
C160	1-162-923-11	CERAMIC CHIP	47PF	5%	50V
C161	1-125-898-91	CERAMIC CHIP	0.22uF	10%	50V
C162	1-125-898-91	CERAMIC CHIP	0.22uF	10%	50V
C163	1-125-898-91	CERAMIC CHIP	0.22uF	10%	50V
C164	1-125-898-91	CERAMIC CHIP	0.22uF	10%	50V
C165	1-125-898-91	CERAMIC CHIP	0.22uF	10%	50V
C166	1-125-898-91	CERAMIC CHIP	0.22uF	10%	50V
C167	1-125-898-91	CERAMIC CHIP	0.22uF	10%	50V
C168	1-162-923-11	CERAMIC CHIP	47PF	5%	50V
C171	1-125-898-91	CERAMIC CHIP	0.22uF	10%	50V
C172	1-125-898-91	CERAMIC CHIP	0.22uF	10%	50V
C173	1-125-898-91	CERAMIC CHIP	0.22uF	10%	50V
C174	1-125-898-91	CERAMIC CHIP	0.22uF	10%	50V
C175	1-125-898-91	CERAMIC CHIP	0.22uF	10%	50V
C176	1-125-898-91	CERAMIC CHIP	0.22uF	10%	50V
C177	1-125-898-91	CERAMIC CHIP	0.22uF	10%	50V
C178	1-162-923-11	CERAMIC CHIP	47PF	5%	50V
C180	1-162-923-11	CERAMIC CHIP	47PF	5%	50V
C181	1-115-185-11	CERAMIC CHIP	0.033uF	10%	50V
C182	1-115-185-11	CERAMIC CHIP	0.033uF	10%	50V
C183	1-115-185-11	CERAMIC CHIP	0.033uF	10%	50V
C184	1-115-185-11	CERAMIC CHIP	0.033uF	10%	50V
C185	1-115-185-11	CERAMIC CHIP	0.033uF	10%	50V
C186	1-115-185-11	CERAMIC CHIP	0.033uF	10%	50V
C187	1-115-185-11	CERAMIC CHIP	0.033uF	10%	50V
C188	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C189	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C190	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C191	1-107-898-11	ELECT	2200uF	20%	35V
C192	1-107-898-11	ELECT	2200uF	20%	35V
C193	1-107-898-11	ELECT	2200uF	20%	35V
C194	1-107-898-11	ELECT	2200uF	20%	35V
C195	1-107-898-11	ELECT	2200uF	20%	35V
C196	1-107-898-11	ELECT	2200uF	20%	35V
C197	1-107-898-11	ELECT	2200uF	20%	35V
C198	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C199	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C200	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C201	1-125-898-91	CERAMIC CHIP	0.22uF	10%	50V
C202	1-125-898-91	CERAMIC CHIP	0.22uF	10%	50V
C203	1-125-898-91	CERAMIC CHIP	0.22uF	10%	50V
C204	1-125-898-91	CERAMIC CHIP	0.22uF	10%	50V

AMP

Ref. No.	Part No.	Description			Remark
C205	1-125-898-91	CERAMIC CHIP	0.22uF	10%	50V
C206	1-125-898-91	CERAMIC CHIP	0.22uF	10%	50V
C207	1-125-898-91	CERAMIC CHIP	0.22uF	10%	50V
C208	1-125-898-91	CERAMIC CHIP	0.22uF	10%	50V
C209	1-125-898-91	CERAMIC CHIP	0.22uF	10%	50V
C210	1-125-898-91	CERAMIC CHIP	0.22uF	10%	50V
C211	1-136-177-00	FILM	1uF	5%	50V
C212	1-136-177-00	FILM	1uF	5%	50V
C213	1-136-177-00	FILM	1uF	5%	50V
C214	1-136-177-00	FILM	1uF	5%	50V
C215	1-136-177-00	FILM	1uF	5%	50V
C216	1-136-177-00	FILM	1uF	5%	50V
C217	1-136-177-00	FILM	1uF	5%	50V
C218	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C221	1-136-177-00	FILM	1uF	5%	50V
C222	1-136-177-00	FILM	1uF	5%	50V
C223	1-136-177-00	FILM	1uF	5%	50V
C224	1-136-177-00	FILM	1uF	5%	50V
C225	1-136-177-00	FILM	1uF	5%	50V
C226	1-136-177-00	FILM	1uF	5%	50V
C227	1-136-177-00	FILM	1uF	5%	50V
C248	1-126-947-11	ELECT	47uF	20%	16V
C251	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C252	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C253	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C254	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C255	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C256	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C257	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C261	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C262	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C263	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C264	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C265	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C266	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C267	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C271	1-125-898-91	CERAMIC CHIP	0.22uF	10%	50V
C272	1-125-898-91	CERAMIC CHIP	0.22uF	10%	50V
C273	1-125-898-91	CERAMIC CHIP	0.22uF	10%	50V
C274	1-125-898-91	CERAMIC CHIP	0.22uF	10%	50V
C275	1-162-294-31	CERAMIC	0.001uF	10%	50V
C276	1-162-294-31	CERAMIC	0.001uF	10%	50V
C277	1-162-294-31	CERAMIC	0.001uF	10%	50V
C278	1-162-294-31	CERAMIC	0.001uF	10%	50V
C281	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C282	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C283	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C284	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C285	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C286	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C287	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C288	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C289	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C290	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C291	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C292	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C293	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V

Ref. No.	Part No.	Description			Remark
C294	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C301	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C302	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C303	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C304	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C305	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C306	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C308	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C309	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C310	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C311	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C312	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C313	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C314	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C315	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C316	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C317	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C318	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C319	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C320	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C321	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C322	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C323	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C324	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C325	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C326	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C327	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C328	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C329	1-126-947-11	ELECT	47uF	20%	16V
C330	1-126-947-11	ELECT	47uF	20%	16V
C331	1-126-947-11	ELECT	47uF	20%	16V
C332	1-126-947-11	ELECT	47uF	20%	16V
C333	1-126-947-11	ELECT	47uF	20%	16V
C334	1-126-947-11	ELECT	47uF	20%	16V
C335	1-126-947-11	ELECT	47uF	20%	16V
C336	1-126-947-11	ELECT	47uF	20%	16V
C337	1-126-947-11	ELECT	47uF	20%	16V
C350	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C351	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C352	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C353	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C354	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C355	1-126-933-11	ELECT	100uF	20%	16V
C356	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C357	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C358	1-126-925-91	ELECT	470uF	20%	10V
C359	1-126-925-91	ELECT	470uF	20%	10V
C360	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C361	1-126-947-11	ELECT	47uF	20%	25V
C362	1-104-658-91	ELECT	100uF	20%	10V
C363	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C366	1-126-934-11	ELECT	220uF	20%	16V
C367	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C368	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C370	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C371	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C372	1-126-960-11	ELECT	1uF	20%	50V

AMP

Ref. No.	Part No.	Description			Remark
C374	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C375	1-126-933-11	ELECT	100uF	20%	16V
C377	1-126-964-11	ELECT	10uF	20%	50V
C380	1-126-923-91	ELECT	220uF	20%	10V
C381	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C382	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C383	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C384	1-162-910-11	CERAMIC CHIP	5PF	0.25PF	50V
C385	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C391	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C392	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C393	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C394	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C395	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C396	1-117-370-11	CERAMIC CHIP	10uF		10V
C397	1-117-370-11	CERAMIC CHIP	10uF		10V
C402	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C403	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C404	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C405	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C406	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
		< CONNECTOR >			
CN300	1-564-704-11	PIN, CONNECTOR (SMALL TYPE) 2P			
CN301	1-779-285-11	CONNECTOR, FFC (LIF (NON-ZIF)) 17P			
CN302	1-779-277-11	CONNECTOR, FFC (LIF (NON-ZIF)) 9P			
CN306	1-691-766-21	PLUG (MICRO CONNECTOR) 4P			
CN307	1-691-766-11	PLUG (MICRO CONNECTOR) 4P			
* CN313	1-564-243-11	PIN, CONNECTOR (3.96mm PITCH) 6P			
		< DIODE >			
D101	6-500-260-01	DIODE P6SMB39AT3			
D102	6-500-260-01	DIODE P6SMB39AT3			
D103	6-500-260-01	DIODE P6SMB39AT3			
D104	6-500-260-01	DIODE P6SMB39AT3			
D105	6-500-260-01	DIODE P6SMB39AT3			
D106	6-500-260-01	DIODE P6SMB39AT3			
D107	6-500-260-01	DIODE P6SMB39AT3			
D201	6-500-260-01	DIODE P6SMB39AT3			
D202	6-500-260-01	DIODE P6SMB39AT3			
D203	6-500-260-01	DIODE P6SMB39AT3			
D204	6-500-260-01	DIODE P6SMB39AT3			
D205	6-500-260-01	DIODE P6SMB39AT3			
D206	6-500-260-01	DIODE P6SMB39AT3			
D207	6-500-260-01	DIODE P6SMB39AT3			
D208	8-719-421-15	DIODE MA8027-H-TX			
D303	8-719-988-61	DIODE 1SS355TE-17			
D304	8-719-988-61	DIODE 1SS355TE-17			
		< FERRITE BEAD >			
FB301	1-469-760-21	FERRITE, EMI (SMD)(2012)			
		< IC >			
IC101	6-704-802-01	IC CXD9774M			
IC102	6-704-802-01	IC CXD9774M			
IC103	6-704-802-01	IC CXD9774M			
IC104	6-704-802-01	IC CXD9774M			
IC105	6-704-802-01	IC CXD9774M			
IC106	6-704-802-01	IC CXD9774M			
IC107	6-704-802-01	IC CXD9774M			
IC108	6-705-979-01	IC CXD9788AR			
IC109	6-705-979-01	IC CXD9788AR			
IC110	6-705-979-01	IC CXD9788AR			
IC301	6-705-720-01	IC RC4580IDR			
IC303	6-702-300-01	IC TK11118CSCL-G			
IC305	6-701-189-01	IC MC74VHC1GU04DFT1			
		< COIL >			
L121	1-456-680-11	INDUCTOR	10uH		
L122	1-456-680-11	INDUCTOR	10uH		
L123	1-456-680-11	INDUCTOR	10uH		
L124	1-456-680-11	INDUCTOR	10uH		
L125	1-456-680-11	INDUCTOR	10uH		
L126	1-456-680-11	INDUCTOR	10uH		
L127	1-456-680-11	INDUCTOR	10uH		
L131	1-456-680-11	INDUCTOR	10uH		
L132	1-456-680-11	INDUCTOR	10uH		
L133	1-456-680-11	INDUCTOR	10uH		
L134	1-456-680-11	INDUCTOR	10uH		
L135	1-456-680-11	INDUCTOR	10uH		
L136	1-456-680-11	INDUCTOR	10uH		
L137	1-456-680-11	INDUCTOR	10uH		
L302	1-412-939-11	INDUCTOR	1uH		
		< TRANSISTOR >			
Q101	8-729-602-36	TRANSISTOR	2SA1602TP-1EF		
Q102	8-729-602-36	TRANSISTOR	2SA1602TP-1EF		
Q103	8-729-602-36	TRANSISTOR	2SA1602TP-1EF		
Q104	8-729-602-36	TRANSISTOR	2SA1602TP-1EF		
Q105	8-729-602-36	TRANSISTOR	2SA1602TP-1EF		
Q106	8-729-602-36	TRANSISTOR	2SA1602TP-1EF		
Q107	8-729-602-36	TRANSISTOR	2SA1602TP-1EF		
Q108	8-729-602-36	TRANSISTOR	2SA1602TP-1EF		
Q109	8-729-602-36	TRANSISTOR	2SA1602TP-1EF		
Q110	8-729-602-36	TRANSISTOR	2SA1602TP-1EF		
Q111	8-729-602-36	TRANSISTOR	2SA1602TP-1EF		
Q112	8-729-602-36	TRANSISTOR	2SA1602TP-1EF		
Q113	8-729-602-36	TRANSISTOR	2SA1602TP-1EF		
Q114	8-729-602-36	TRANSISTOR	2SA1602TP-1EF		
Q301	8-729-034-51	TRANSISTOR	KTC3875		
Q303	8-729-801-84	TRANSISTOR	2SB1013-TP-34		
Q304	8-729-038-68	TRANSISTOR	KRC103S		
		< RESISTOR >			
R108	1-216-837-11	METAL CHIP	22K	5%	1/10W
R109	1-216-837-11	METAL CHIP	22K	5%	1/10W
R110	1-216-837-11	METAL CHIP	22K	5%	1/10W
R111	1-216-837-11	METAL CHIP	22K	5%	1/10W
R112	1-216-837-11	METAL CHIP	22K	5%	1/10W
R113	1-216-837-11	METAL CHIP	22K	5%	1/10W
R114	1-216-837-11	METAL CHIP	22K	5%	1/10W
R115	1-216-837-11	METAL CHIP	22K	5%	1/10W
R116	1-216-837-11	METAL CHIP	22K	5%	1/10W
R117	1-216-837-11	METAL CHIP	22K	5%	1/10W

AMP

Ref. No.	Part No.	Description			Remark
R118	1-216-837-11	METAL CHIP	22K	5%	1/10W
R119	1-216-837-11	METAL CHIP	22K	5%	1/10W
R120	1-216-837-11	METAL CHIP	22K	5%	1/10W
R128	1-216-837-11	METAL CHIP	22K	5%	1/10W
R129	1-216-809-11	METAL CHIP	100	5%	1/10W
R131	1-216-864-11	SHORT CHIP	0		
R132	1-216-864-11	SHORT CHIP	0		
R133	1-216-864-11	SHORT CHIP	0		
R134	1-216-864-11	SHORT CHIP	0		
R135	1-216-864-11	SHORT CHIP	0		
R136	1-216-864-11	SHORT CHIP	0		
R137	1-216-864-11	SHORT CHIP	0		
R139	1-216-864-11	SHORT CHIP	0		
R141	1-216-864-11	SHORT CHIP	0		
R142	1-216-864-11	SHORT CHIP	0		
R143	1-216-864-11	SHORT CHIP	0		
R144	1-216-864-11	SHORT CHIP	0		
R145	1-216-864-11	SHORT CHIP	0		
R146	1-216-864-11	SHORT CHIP	0		
R147	1-216-864-11	SHORT CHIP	0		
R151	1-216-864-11	SHORT CHIP	0		
R152	1-216-864-11	SHORT CHIP	0		
R153	1-216-864-11	SHORT CHIP	0		
R154	1-216-864-11	SHORT CHIP	0		
R155	1-216-864-11	SHORT CHIP	0		
R156	1-216-864-11	SHORT CHIP	0		
R157	1-216-864-11	SHORT CHIP	0		
R161	1-216-864-11	SHORT CHIP	0		
R162	1-216-864-11	SHORT CHIP	0		
R163	1-216-864-11	SHORT CHIP	0		
R164	1-216-864-11	SHORT CHIP	0		
R165	1-216-864-11	SHORT CHIP	0		
R166	1-216-864-11	SHORT CHIP	0		
R167	1-216-864-11	SHORT CHIP	0		
R171	1-216-864-11	SHORT CHIP	0		
R172	1-216-864-11	SHORT CHIP	0		
R173	1-216-864-11	SHORT CHIP	0		
R174	1-216-864-11	SHORT CHIP	0		
R175	1-216-864-11	SHORT CHIP	0		
R176	1-216-864-11	SHORT CHIP	0		
R177	1-216-864-11	SHORT CHIP	0		
R191	1-220-942-11	METAL CHIP	3.3	1%	1/4W
R192	1-220-942-11	METAL CHIP	3.3	1%	1/4W
R193	1-220-942-11	METAL CHIP	3.3	1%	1/4W
R194	1-220-942-11	METAL CHIP	3.3	1%	1/4W
R195	1-220-942-11	METAL CHIP	3.3	1%	1/4W
R196	1-220-942-11	METAL CHIP	3.3	1%	1/4W
R197	1-220-942-11	METAL CHIP	3.3	1%	1/4W
R201	1-220-942-11	METAL CHIP	3.3	1%	1/4W
R202	1-220-942-11	METAL CHIP	3.3	1%	1/4W
R203	1-220-942-11	METAL CHIP	3.3	1%	1/4W
R204	1-220-942-11	METAL CHIP	3.3	1%	1/4W
R205	1-220-942-11	METAL CHIP	3.3	1%	1/4W
R206	1-220-942-11	METAL CHIP	3.3	1%	1/4W
R207	1-220-942-11	METAL CHIP	3.3	1%	1/4W
R211	1-216-136-00	RES-CHIP	2.7	5%	1/8W
R212	1-216-136-00	RES-CHIP	2.7	5%	1/8W
R213	1-216-136-00	RES-CHIP	2.7	5%	1/8W
R214	1-216-136-00	RES-CHIP	2.7	5%	1/8W
R215	1-216-136-00	RES-CHIP	2.7	5%	1/8W
R216	1-216-136-00	RES-CHIP	2.7	5%	1/8W
R217	1-216-136-00	RES-CHIP	2.7	5%	1/8W
R221	1-216-136-00	RES-CHIP	2.7	5%	1/8W
R222	1-216-136-00	RES-CHIP	2.7	5%	1/8W
R223	1-216-136-00	RES-CHIP	2.7	5%	1/8W
R224	1-216-136-00	RES-CHIP	2.7	5%	1/8W
R225	1-216-136-00	RES-CHIP	2.7	5%	1/8W
R226	1-216-136-00	RES-CHIP	2.7	5%	1/8W
R227	1-216-136-00	RES-CHIP	2.7	5%	1/8W
R229	1-216-809-11	METAL CHIP	100	5%	1/10W
R231	1-216-809-11	METAL CHIP	100	5%	1/10W
R233	1-216-809-11	METAL CHIP	100	5%	1/10W
R235	1-216-809-11	METAL CHIP	100	5%	1/10W
R237	1-216-809-11	METAL CHIP	100	5%	1/10W
R239	1-216-809-11	METAL CHIP	100	5%	1/10W
R241	1-216-809-11	METAL CHIP	100	5%	1/10W
R242	1-216-809-11	METAL CHIP	100	5%	1/10W
R243	1-216-809-11	METAL CHIP	100	5%	1/10W
R244	1-216-809-11	METAL CHIP	100	5%	1/10W
R245	1-216-809-11	METAL CHIP	100	5%	1/10W
R246	1-216-809-11	METAL CHIP	100	5%	1/10W
R247	1-216-809-11	METAL CHIP	100	5%	1/10W
R300	1-216-817-11	METAL CHIP	470	5%	1/10W
R302	1-216-817-11	METAL CHIP	470	5%	1/10W
R303	1-216-817-11	METAL CHIP	470	5%	1/10W
R304	1-216-817-11	METAL CHIP	470	5%	1/10W
R305	1-216-817-11	METAL CHIP	470	5%	1/10W
R306	1-216-817-11	METAL CHIP	470	5%	1/10W
R308	1-216-817-11	METAL CHIP	470	5%	1/10W
R309	1-216-864-11	SHORT CHIP	0		
R310	1-216-809-11	METAL CHIP	100	5%	1/10W
R311	1-216-809-11	METAL CHIP	100	5%	1/10W
R312	1-216-809-11	METAL CHIP	100	5%	1/10W
R313	1-216-809-11	METAL CHIP	100	5%	1/10W
R314	1-216-809-11	METAL CHIP	100	5%	1/10W
R315	1-216-803-11	METAL CHIP	33	5%	1/10W
R316	1-216-817-11	METAL CHIP	470	5%	1/10W
R317	1-216-817-11	METAL CHIP	470	5%	1/10W
R318	1-216-817-11	METAL CHIP	470	5%	1/10W
R319	1-216-833-11	METAL CHIP	10K	5%	1/10W
R320	1-216-864-11	SHORT CHIP	0		
R321	1-216-864-11	SHORT CHIP	0		
R322	1-216-833-11	METAL CHIP	10K	5%	1/10W
R323	1-216-864-11	SHORT CHIP	0		
R324	1-216-864-11	SHORT CHIP	0		
R325	1-216-864-11	SHORT CHIP	0		
R326	1-216-864-11	SHORT CHIP	0		
R327	1-216-864-11	SHORT CHIP	0		
R328	1-216-864-11	SHORT CHIP	0		
R329	1-216-864-11	SHORT CHIP	0		
R330	1-216-837-11	METAL CHIP	22K	5%	1/10W
R331	1-216-837-11	METAL CHIP	22K	5%	1/10W
R332	1-216-837-11	METAL CHIP	22K	5%	1/10W
R333	1-216-837-11	METAL CHIP	22K	5%	1/10W
R334	1-216-837-11	METAL CHIP	22K	5%	1/10W

AMP

Ref. No.	Part No.	Description			Remark
R335	1-216-837-11	METAL CHIP	22K	5%	1/10W
R336	1-216-837-11	METAL CHIP	22K	5%	1/10W
R337	1-216-837-11	METAL CHIP	22K	5%	1/10W
R338	1-218-725-11	METAL CHIP	24K	5%	1/10W
R339	1-218-725-11	METAL CHIP	24K	5%	1/10W
R340	1-216-839-11	METAL CHIP	33K	5%	1/10W
R341	1-216-839-11	METAL CHIP	33K	5%	1/10W
R342	1-216-864-11	SHORT CHIP	0		
R343	1-216-864-11	SHORT CHIP	0		
R344	1-216-817-11	METAL CHIP	470	5%	1/10W
R345	1-216-833-11	METAL CHIP	10K	5%	1/10W
R346	1-216-817-11	METAL CHIP	470	5%	1/10W
R347	1-216-833-11	METAL CHIP	10K	5%	1/10W
R348	1-216-817-11	METAL CHIP	470	5%	1/10W
R349	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R350	1-216-826-11	METAL CHIP	2.7K	5%	1/10W
R351	1-216-817-11	METAL CHIP	470	5%	1/10W
R361	1-216-845-11	METAL CHIP	100K	5%	1/10W
R362	1-216-845-11	METAL CHIP	100K	5%	1/10W
R363	1-216-845-11	METAL CHIP	100K	5%	1/10W
R364	1-216-845-11	METAL CHIP	100K	5%	1/10W
R365	1-216-845-11	METAL CHIP	100K	5%	1/10W
R366	1-216-845-11	METAL CHIP	100K	5%	1/10W
R367	1-216-845-11	METAL CHIP	100K	5%	1/10W
R371	1-216-818-11	METAL CHIP	560	5%	1/10W
R372	1-216-818-11	METAL CHIP	560	5%	1/10W
R373	1-216-818-11	METAL CHIP	560	5%	1/10W
R374	1-216-818-11	METAL CHIP	560	5%	1/10W
R375	1-216-818-11	METAL CHIP	560	5%	1/10W
R376	1-216-818-11	METAL CHIP	560	5%	1/10W
R377	1-216-818-11	METAL CHIP	560	5%	1/10W
R378	1-216-818-11	METAL CHIP	560	5%	1/10W
R379	1-216-818-11	METAL CHIP	560	5%	1/10W
R380	1-216-818-11	METAL CHIP	560	5%	1/10W
R381	1-216-818-11	METAL CHIP	560	5%	1/10W
R382	1-216-818-11	METAL CHIP	560	5%	1/10W
R383	1-216-818-11	METAL CHIP	560	5%	1/10W
R384	1-216-818-11	METAL CHIP	560	5%	1/10W
R393	1-216-801-11	METAL CHIP	22	5%	1/10W
R394	1-216-857-11	METAL CHIP	1M	5%	1/10W
R395	1-216-845-11	METAL CHIP	100K	5%	1/10W
R396	1-216-809-11	METAL CHIP	100	5%	1/10W
R400	1-216-845-11	METAL CHIP	100K	5%	1/10W
R401	1-216-845-11	METAL CHIP	100K	5%	1/10W
R402	1-216-845-11	METAL CHIP	100K	5%	1/10W
R403	1-216-845-11	METAL CHIP	100K	5%	1/10W
R404	1-216-845-11	METAL CHIP	100K	5%	1/10W
R405	1-216-845-11	METAL CHIP	100K	5%	1/10W
R406	1-216-845-11	METAL CHIP	100K	5%	1/10W
R407	1-216-845-11	METAL CHIP	100K	5%	1/10W
R408	1-216-845-11	METAL CHIP	100K	5%	1/10W
R409	1-216-845-11	METAL CHIP	100K	5%	1/10W
R410	1-216-845-11	METAL CHIP	100K	5%	1/10W
R411	1-216-845-11	METAL CHIP	100K	5%	1/10W
R412	1-216-845-11	METAL CHIP	100K	5%	1/10W
R413	1-216-845-11	METAL CHIP	100K	5%	1/10W
R414	1-216-845-11	METAL CHIP	100K	5%	1/10W
R425	1-216-817-11	METAL CHIP	470	5%	1/10W

CONTROL KEY

Ref. No.	Part No.	Description			Remark
R426	1-216-818-11	METAL CHIP	560	5%	1/10W
R427	1-216-818-11	METAL CHIP	560	5%	1/10W
R428	1-216-841-11	METAL CHIP	47K	5%	1/10W
R429	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R430	1-216-833-11	METAL CHIP	10K	5%	1/10W
R431	1-216-845-11	METAL CHIP	100K	5%	1/10W
R450	1-216-833-11	METAL CHIP	10K	5%	1/10W
R451	1-216-833-11	METAL CHIP	10K	5%	1/10W
R452	1-216-833-11	METAL CHIP	10K	5%	1/10W
R453	1-216-833-11	METAL CHIP	10K	5%	1/10W
R454	1-216-833-11	METAL CHIP	10K	5%	1/10W
R455	1-216-833-11	METAL CHIP	10K	5%	1/10W
R456	1-216-833-11	METAL CHIP	10K	5%	1/10W
R457	1-216-833-11	METAL CHIP	10K	5%	1/10W
R458	1-216-833-11	METAL CHIP	10K	5%	1/10W
R459	1-216-833-11	METAL CHIP	10K	5%	1/10W
R460	1-216-833-11	METAL CHIP	10K	5%	1/10W
R461	1-216-833-11	METAL CHIP	10K	5%	1/10W
R462	1-216-833-11	METAL CHIP	10K	5%	1/10W
R463	1-216-833-11	METAL CHIP	10K	5%	1/10W
R464	1-216-833-11	METAL CHIP	10K	5%	1/10W
R481	1-216-833-11	METAL CHIP	10K	5%	1/10W
R482	1-216-833-11	METAL CHIP	10K	5%	1/10W
R483	1-216-833-11	METAL CHIP	10K	5%	1/10W
R484	1-216-833-11	METAL CHIP	10K	5%	1/10W
R485	1-216-833-11	METAL CHIP	10K	5%	1/10W
R486	1-216-833-11	METAL CHIP	10K	5%	1/10W
R487	1-216-833-11	METAL CHIP	10K	5%	1/10W
R488	1-216-833-11	METAL CHIP	10K	5%	1/10W
R489	1-216-833-11	METAL CHIP	10K	5%	1/10W
R490	1-216-833-11	METAL CHIP	10K	5%	1/10W
R491	1-216-833-11	METAL CHIP	10K	5%	1/10W
R492	1-216-833-11	METAL CHIP	10K	5%	1/10W
R493	1-216-833-11	METAL CHIP	10K	5%	1/10W
R494	1-216-833-11	METAL CHIP	10K	5%	1/10W
R495	1-216-833-11	METAL CHIP	10K	5%	1/10W
R496	1-216-833-11	METAL CHIP	10K	5%	1/10W
R497	1-216-833-11	METAL CHIP	10K	5%	1/10W
		< VIBRATOR >			
X450	1-795-660-21	QUARTZ CRYSTAL UNIT 49.152MHz			

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CONTROL KEY BOARD

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< CAPACITOR >

C816	1-100-566-91	CERAMIC CHIP	0.1uF	10%	25V
C844	1-100-566-91	CERAMIC CHIP	0.1uF	10%	25V
C845	1-100-566-91	CERAMIC CHIP	0.1uF	10%	25V
C851	1-100-566-91	CERAMIC CHIP	0.1uF	10%	25V
C852	1-100-566-91	CERAMIC CHIP	0.1uF	10%	25V
C857	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C858	1-164-733-11	CERAMIC CHIP	820PF	10%	50V

< CONNECTOR >

CN810	1-784-859-21	CONNECTOR, FFC (LIF (NON-ZIF)) 7P			

CONTROL KEY | DDCON | DISC KEY

Ref. No.	Part No.	Description			Remark
		< RESISTOR >			
R860	1-216-864-11	SHORT CHIP	0		
R861	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R866	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R867	1-216-864-11	SHORT CHIP	0		
R868	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R874	1-216-833-11	METAL CHIP	10K	5%	1/10W
R875	1-216-837-11	METAL CHIP	22K	5%	1/10W
R876	1-216-841-11	METAL CHIP	47K	5%	1/10W
		< SWITCH >			
☆ S801	1-771-884-31	SWITCH, TACTILE (FUNCTION)			
☆ S807	1-771-884-31	SWITCH, TACTILE (▷/❚❚)			
☆ S808	1-771-884-31	SWITCH, TACTILE (I◀◀)			
☆ S809	1-771-884-31	SWITCH, TACTILE (+ (VOLUME))			
☆ S815	1-771-884-31	SWITCH, TACTILE (■)			
☆ S816	1-771-884-31	SWITCH, TACTILE (▶▶I)			
☆ S817	1-771-884-31	SWITCH, TACTILE (– (VOLUME))			
☆ S818	1-771-884-31	SWITCH, TACTILE (⏏)			
**********					
	A-4751-769-A	DDCON BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C817	1-162-960-11	CERAMIC CHIP	220PF	10%	50V
C818	1-124-584-00	ELECT	100uF	20%	10V
C819	1-162-960-11	CERAMIC CHIP	220PF	10%	50V
C820	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C821	1-162-960-11	CERAMIC CHIP	220PF	10%	50V
C822	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C823	1-162-960-11	CERAMIC CHIP	220PF	10%	50V
C824	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C825	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C826	1-124-234-00	ELECT	22uF	20%	10V
C827	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C828	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C829	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C830	1-163-037-11	CERAMIC CHIP	0.022uF	10%	50V
C831	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C832	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C833	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C834	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C835	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C836	1-126-795-11	ELECT	10uF	20%	50V
C837	1-164-360-11	CERAMIC CHIP	0.1uF		16V
		< CONNECTOR >			
CN800	1-779-285-11	CONNECTOR, FFC (LIF (NON-ZIF)) 17P			
CN801	1-779-285-11	CONNECTOR, FFC (LIF (NON-ZIF)) 17P			
CN802	1-779-281-11	CONNECTOR, FFC (LIF (NON-ZIF)) 13P			
		< DIODE >			
D810	8-719-988-61	DIODE 1SS355TE-17			
D811	8-719-988-61	DIODE 1SS355TE-17			
D813	8-719-988-61	DIODE 1SS355TE-17			
D814	8-719-988-61	DIODE 1SS355TE-17			
D815	8-719-069-56	DIODE UDZSTE-176.2B			

☆ The Part numbers of Ref.No. S801, 807-809, 815-818 are changed with a suffix of the CONTROL KEY board. Please refer to SUPPLEMENT-3 of this manual at the time of replacement.

Ref. No.	Part No.	Description			Remark
		< FERRITE BEAD >			
FB001	1-469-324-21	FERRITE, EMI (SMD)(2012)			
FB002	1-469-324-21	FERRITE, EMI (SMD)(2012)			
FB003	1-469-324-21	FERRITE, EMI (SMD)(2012)			
FB806	1-414-813-11	FERRITE, EMI (SMD)(2012)			
FB808	1-414-813-11	FERRITE, EMI (SMD)(2012)			
		< IC >			
IC802	8-759-366-45	IC NJU3713G (TE2)			
		< COIL >			
L804	1-410-671-31	INDUCTOR	47uH		
L805	1-400-135-11	INDUCTOR	1uH		
L806	1-400-135-11	INDUCTOR	1uH		
L807	1-400-135-11	INDUCTOR	1uH		
		< TRANSISTOR >			
Q802	6-550-065-01	TRANSISTOR	CPH5504-TL-E		
		< RESISTOR >			
R806	1-216-864-11	SHORT CHIP	0		
R814	1-216-809-11	METAL CHIP	100	5%	1/10W
R815	1-216-864-11	SHORT CHIP	0		
R817	1-216-809-11	METAL CHIP	100	5%	1/10W
R818	1-216-809-11	METAL CHIP	100	5%	1/10W
R819	1-216-809-11	METAL CHIP	100	5%	1/10W
R823	1-216-841-11	METAL CHIP	47K	5%	1/10W
R826	1-216-820-11	METAL CHIP	820	5%	1/10W
R827	1-216-820-11	METAL CHIP	820	5%	1/10W
R829	1-216-820-11	METAL CHIP	820	5%	1/10W
R830	1-216-820-11	METAL CHIP	820	5%	1/10W
R831	1-216-820-11	METAL CHIP	820	5%	1/10W
R833	1-216-820-11	METAL CHIP	820	5%	1/10W
R834	1-216-820-11	METAL CHIP	820	5%	1/10W
R835	1-216-820-11	METAL CHIP	820	5%	1/10W
R837	1-216-820-11	METAL CHIP	820	5%	1/10W
R838	1-216-820-11	METAL CHIP	820	5%	1/10W
R839	1-216-839-11	METAL CHIP	33K	5%	1/10W
R841	1-216-809-11	METAL CHIP	100	5%	1/10W
R850	1-216-828-11	METAL CHIP	3.9K	5%	1/10W
		< TRANSFORMER >			
T801	1-443-325-11	TRANSFORMER, DC-DC CONVERTER			
**********					
		DISC KEY BOARD			
		**********			
		< CONNECTOR >			
CN804	1-779-550-21	CONNECTOR, FFC (LIF (NON-ZIF)) 13P			
		< DIODE >			
D806	8-719-079-89	DIODE SML-020MDT-T86 (DISC 1)			
D807	8-719-079-89	DIODE SML-020MDT-T86 (DISC 2)			
D808	8-719-079-89	DIODE SML-020MDT-T86 (DISC 3)			
D809	8-719-079-89	DIODE SML-020MDT-T86 (DISC 4)			
D812	8-719-079-89	DIODE SML-020MDT-T86 (DISC 5)			

DISC KEY DMB08

Ref. No.	Part No.	Description			Remark
		< RESISTOR >			
R862	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R863	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R864	1-216-833-11	METAL CHIP	10K	5%	1/10W
R865	1-216-837-11	METAL CHIP	22K	5%	1/10W
R869	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R870	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R871	1-216-833-11	METAL CHIP	10K	5%	1/10W
R872	1-216-837-11	METAL CHIP	22K	5%	1/10W
R873	1-216-841-11	METAL CHIP	47K	5%	1/10W
		< SWITCH >			
☆ S802	1-771-884-31	SWITCH, TACTILE (⏏ (DISC 1))			
☆ S803	1-771-884-31	SWITCH, TACTILE (⏏ (DISC 2))			
☆ S804	1-771-884-31	SWITCH, TACTILE (⏏ (DISC 3))			
☆ S805	1-771-884-31	SWITCH, TACTILE (⏏ (DISC 4))			
☆ S806	1-771-884-31	SWITCH, TACTILE (⏏ (DISC 5))			
☆ S810	1-771-884-31	SWITCH, TACTILE (DISC 1)			
☆ S811	1-771-884-31	SWITCH, TACTILE (DISC 2)			
☆ S812	1-771-884-31	SWITCH, TACTILE (DISC 3)			
☆ S813	1-771-884-31	SWITCH, TACTILE (DISC 4)			
☆ S814	1-771-884-31	SWITCH, TACTILE (DISC 5)			
**********					
	A-4751-785-A	DMB08 BOARD, COMPLETE (FR1)			
	A-4753-404-A	DMB08 BOARD, COMPLETE (FR8)			
	A-4753-472-A	DMB08 BOARD, COMPLETE (FR9)			
		**********			
		< CAPACITOR >			
C001	1-126-206-11	ELECT CHIP	100uF	20%	6.3V
C002	1-164-947-11	CERAMIC CHIP	0.01uF		50V
C003	1-126-206-11	ELECT CHIP	100uF	20%	6.3V
C004	1-126-204-11	ELECT CHIP	47uF	20%	16V
C005	1-126-246-11	ELECT CHIP	220uF	20%	4V
C006	1-117-681-11	ELECT CHIP	100uF	20%	16V
C008	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C009	1-164-947-11	CERAMIC CHIP	0.01uF		50V
C010	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C011	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C014	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C015	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C016	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C017	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C018	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C019	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C020	1-126-246-11	ELECT CHIP	220uF	20%	4V
C022	1-126-209-11	ELECT CHIP	100uF	20%	4V
C201	1-126-246-11	ELECT CHIP	220uF	20%	4V
C203	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C204	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C217	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C219	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C225	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C226	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C228	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C229	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C230	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C231	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C232	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C233	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C234	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C235	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C236	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C237	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C238	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C239	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C240	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C241	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C242	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C243	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C244	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C245	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C246	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C247	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C248	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C249	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C250	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C251	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C252	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C253	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C254	1-117-370-11	CERAMIC CHIP	10uF		10V
C255	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C257	1-117-370-11	CERAMIC CHIP	10uF		10V
C258	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C259	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C260	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C261	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C262	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C263	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C264	1-117-370-11	CERAMIC CHIP	10uF		10V
C265	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C266	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C267	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C268	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C269	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C270	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C271	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C274	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C301	1-117-370-11	CERAMIC CHIP	10uF		10V
C302	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C303	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C304	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C307	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C308	1-127-772-81	CERAMIC CHIP	33000PF	10%	10V
C309	1-164-874-11	CERAMIC CHIP	100PF	5%	50V
C310	1-164-874-11	CERAMIC CHIP	100PF	5%	50V
C311	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C312	1-117-370-11	CERAMIC CHIP	10uF		10V
C313	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C314	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C315	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C316	1-124-779-00	ELECT CHIP	10uF	20%	16V
C317	1-164-852-11	CERAMIC CHIP	12PF	5%	50V
C318	1-164-852-11	CERAMIC CHIP	12PF	5%	50V

☆ The Part numbers of Ref.No. S802-806, 810-814 are changed with a suffix of the DISC KEY board. Please refer to SUPPLEMENT-3 of this manual at the time of replacement.

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Ref. No.	Part No.	Description			Remark
C319	1-164-862-11	CERAMIC CHIP	33PF	5%	50V
C320	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C355	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C356	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C401	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C402	1-117-370-11	CERAMIC CHIP	10uF		10V
C404	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C405	1-124-779-00	ELECT CHIP	10uF	20%	16V
C406	1-164-939-11	CERAMIC CHIP	0.0022uF	10%	50V
C407	1-117-370-11	CERAMIC CHIP	10uF		10V
C408	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C409	1-164-939-11	CERAMIC CHIP	0.0022uF	10%	50V
C410	1-124-779-00	ELECT CHIP	10uF	20%	16V
C411	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C412	1-164-939-11	CERAMIC CHIP	0.0022uF	10%	50V
C413	1-164-939-11	CERAMIC CHIP	0.0022uF	10%	50V
C414	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C415	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C416	1-117-370-11	CERAMIC CHIP	10uF		10V
C417	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C418	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C419	1-119-923-11	CERAMIC CHIP	0.047uF	10%	10V
C420	1-164-939-11	CERAMIC CHIP	0.0022uF	10%	50V
C421	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C422	1-164-874-11	CERAMIC CHIP	100PF	5%	50V
C423	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C424	1-107-819-11	CERAMIC CHIP	0.022uF	10%	16V
C425	1-164-939-11	CERAMIC CHIP	0.0022uF	10%	50V
C426	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C427	1-117-863-11	CERAMIC CHIP	0.47uF	10%	6.3V
C428	1-164-940-11	CERAMIC CHIP	0.0033uF	10%	16V
C432	1-164-874-11	CERAMIC CHIP	100PF	5%	50V
C433	1-164-938-11	CERAMIC CHIP	0.0015uF	10%	50V
C434	1-117-370-11	CERAMIC CHIP	10uF		10V
C435	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C436	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C503	1-127-772-81	CERAMIC CHIP	33000PF	10%	10V
C504	1-127-772-81	CERAMIC CHIP	33000PF	10%	10V
C506	1-164-934-11	CERAMIC CHIP	330PF	10%	50V
C508	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C509	1-164-934-11	CERAMIC CHIP	330PF	10%	50V
C510	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C512	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C514	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C519	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C521	1-164-938-11	CERAMIC CHIP	0.0015uF	10%	50V
C523	1-164-938-11	CERAMIC CHIP	0.0015uF	10%	50V
C524	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C525	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C526	1-126-395-11	ELECT CHIP	22uF	20%	16V
C527	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C528	1-126-205-11	ELECT CHIP	47uF	20%	6.3V
C529	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C552	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C600	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C601	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C602	1-117-681-11	ELECT CHIP	100uF	20%	16V
C603	1-164-858-11	CERAMIC CHIP	22PF	5%	50V

Ref. No.	Part No.	Description			Remark
C604	1-164-868-11	CERAMIC CHIP	56PF	5%	50V
C605	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C606	1-126-206-11	ELECT CHIP	100uF	20%	6.3V
C607	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C608	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C609	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C610	1-126-205-11	ELECT CHIP	47uF	20%	6.3V
C611	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C612	1-117-370-11	CERAMIC CHIP	10uF		10V
C613	1-117-370-11	CERAMIC CHIP	10uF		10V
C614	1-126-193-11	ELECT CHIP	1uF	20%	50V
C615	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C616	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C617	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C618	1-124-779-00	ELECT CHIP	10uF	20%	16V
C619	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C620	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C622	1-124-779-00	ELECT CHIP	10uF	20%	16V
C624	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C625	1-126-193-11	ELECT CHIP	1uF	20%	50V
C626	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C627	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C628	1-124-779-00	ELECT CHIP	10uF	20%	16V
C629	1-164-854-11	CERAMIC CHIP	15PF	5%	50V
C630	1-117-370-11	CERAMIC CHIP	10uF		10V
C631	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C632	1-164-854-11	CERAMIC CHIP	15PF	5%	50V
C633	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C634	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C635	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C636	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C637	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C638	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C639	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C640	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C641	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C642	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C643	1-126-246-11	ELECT CHIP	220uF	20%	4V
C644	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C646	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C647	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C648	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C650	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C651	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C652	1-126-246-11	ELECT CHIP	220uF	20%	4V
C653	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C655	1-126-206-11	ELECT CHIP	100uF	20%	6.3V
C657	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C660	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C661	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C664	1-117-370-11	CERAMIC CHIP	10uF		10V
C665	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C666	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C667	1-117-370-11	CERAMIC CHIP	10uF		10V
C668	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C669	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C670	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C671	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C672	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V

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Ref. No.	Part No.	Description			Remark
C673	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C674	1-117-370-11	CERAMIC CHIP	10uF		10V
C675	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C679	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C702	1-126-209-11	ELECT CHIP	100uF	20%	4V
C703	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C706	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C708	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C709	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C711	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C712	1-164-874-11	CERAMIC CHIP	100PF	5%	50V
C713	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C714	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C715	1-164-938-11	CERAMIC CHIP	0.0015uF	10%	50V
C716	1-117-863-11	CERAMIC CHIP	0.47uF	10%	6.3V
C717	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C718	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C720	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C721	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C722	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C723	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C724	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C725	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C726	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C727	1-117-370-11	CERAMIC CHIP	10uF		10V
C728	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C729	1-117-370-11	CERAMIC CHIP	10uF		10V
C730	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C740	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C741	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C742	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C743	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C744	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C745	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C752	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C760	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C761	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C762	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C763	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C764	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C765	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C766	1-164-874-11	CERAMIC CHIP	100PF	5%	50V
C767	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C768	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C769	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C770	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C771	1-119-923-11	CERAMIC CHIP	0.047uF	10%	10V
C772	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C773	1-117-863-11	CERAMIC CHIP	0.47uF	10%	16V
C774	1-164-941-11	CERAMIC CHIP	0.0047uF	10%	16V
C775	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C776	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C777	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C778	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C779	1-117-370-11	CERAMIC CHIP	10uF		10V
C780	1-117-370-11	CERAMIC CHIP	10uF		10V
C781	1-117-370-11	CERAMIC CHIP	10uF		10V
C796	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C797	1-126-209-11	ELECT CHIP	100uF	20%	4V

Ref. No.	Part No.	Description			Remark
C802	1-117-370-11	CERAMIC CHIP	10uF		10V
C803	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C804	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C805	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C807	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C808	1-164-874-11	CERAMIC CHIP	100PF	5%	50V
C809	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C810	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C811	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C812	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C813	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C815	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C817	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C818	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C819	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C837	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C838	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C839	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C840	1-117-370-11	CERAMIC CHIP	10uF		10V
C841	1-117-370-11	CERAMIC CHIP	10uF		10V
C842	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C843	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C848	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C849	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C854	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C855	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C856	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C857	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C861	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C865	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C866	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C867	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C870	1-127-772-81	CERAMIC CHIP	33000PF	10%	10V
C871	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C900	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C901	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C902	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C903	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C905	1-164-934-11	CERAMIC CHIP	330PF	10%	50V
C906	1-164-934-11	CERAMIC CHIP	330PF	10%	50V
C907	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C908	1-117-370-11	CERAMIC CHIP	10uF		10V
C909	1-127-715-91	CERAMIC CHIP	0.22uF	10%	16V
C910	1-104-905-11	CAPACITOR	0.22F		5.5V
C911	1-126-205-11	ELECT CHIP	47uF	20%	6.3V
C912	1-126-205-11	ELECT CHIP	47uF	20%	6.3V
C913	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C914	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C916	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C917	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C918	1-164-874-11	CERAMIC CHIP	100PF	5%	50V
C921	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C922	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C923	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C924	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C925	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C926	1-107-820-11	CERAMIC CHIP	0.1uF		16V

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Ref. No.	Part No.	Description	Remark
C928	1-107-820-11	CERAMIC CHIP 0.1uF	16V
C932	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V
		< CONNECTOR >	
CN001	1-784-368-31	CONNECTOR, FFC/FPC 9P	
CN002	1-778-957-11	CONNECTOR, FFC/FPC 29P	
CN003	1-784-374-31	CONNECTOR, FFC/FPC 15P	
CN004	1-784-376-31	CONNECTOR, FFC/FPC 17P	
CN005	1-784-376-31	CONNECTOR, FFC/FPC 17P	
CN006	1-784-385-31	CONNECTOR, FFC/FPC 28P	
CN008	1-815-875-21	PIN, CONNECTOR (PC BOARD)(12P)	
CN301	1-764-177-11	PIN, CONNECTOR (SMD)(1.5mm) 7P	
CN401	1-778-957-31	CONNECTOR, FFC/FPC 29P	
CN900	1-784-367-31	CONNECTOR, FFC/FPC 8P	
		< DIODE >	
D900	8-719-053-18	DIODE 1SR154-400TE-25	
D901	8-719-053-18	DIODE 1SR154-400TE-25	
D902	8-719-988-61	DIODE 1SS355TE-17	
D903	8-719-083-02	DIODE KDS160-RTK	
D904	8-719-083-02	DIODE KDS160-RTK	
D906	8-719-083-02	DIODE KDS160-RTK	
D907	8-719-988-61	DIODE 1SS355TE-17	
		< FERRITE BEAD >	
FB001	1-469-324-21	FERRITE, EMI (SMD)(2012)	
FB004	1-469-324-21	FERRITE, EMI (SMD)(2012)	
FB005	1-469-324-21	FERRITE, EMI (SMD)(2012)	
FB006	1-469-324-21	FERRITE, EMI (SMD)(2012)	
FB007	1-469-324-21	FERRITE, EMI (SMD)(2012)	
FB008	1-469-324-21	FERRITE, EMI (SMD)(2012)	
FB009	1-469-324-21	FERRITE, EMI (SMD)(2012)	
FB010	1-469-324-21	FERRITE, EMI (SMD)(2012)	
FB011	1-469-324-21	FERRITE, EMI (SMD)(2012)	
FB012	1-469-324-21	FERRITE, EMI (SMD)(2012)	
FB013	1-469-324-21	FERRITE, EMI (SMD)(2012)	
FB014	1-469-324-21	FERRITE, EMI (SMD)(2012)	
FB201	1-469-324-21	FERRITE, EMI (SMD)(2012)	
FB202	1-469-324-21	FERRITE, EMI (SMD)(2012)	
FB901	1-469-324-21	FERRITE, EMI (SMD)(2012)	
FB902	1-216-295-91	SHORT CHIP 0	
		< FILTER >	
FL003	1-234-494-21	FILTER, EMI REMOVAL (SMD)	
FL004	1-234-494-21	FILTER, EMI REMOVAL (SMD)	
FL005	1-233-893-21	FILTER, CHIP EMI	
FL006	1-234-494-21	FILTER, EMI REMOVAL (SMD)	
FL202	1-234-494-21	FILTER, EMI REMOVAL (SMD)	
FL203	1-234-494-21	FILTER, EMI REMOVAL (SMD)	
FL204	1-234-494-21	FILTER, EMI REMOVAL (SMD)	
FL301	1-234-494-21	FILTER, EMI REMOVAL (SMD)	
FL303	1-234-494-21	FILTER, EMI REMOVAL (SMD)	
FL304	1-234-494-21	FILTER, EMI REMOVAL (SMD)	
FL401	1-234-494-21	FILTER, EMI REMOVAL (SMD)	
FL402	1-234-494-21	FILTER, EMI REMOVAL (SMD)	
FL603	1-234-494-21	FILTER, EMI REMOVAL (SMD)	
FL604	1-234-494-21	FILTER, EMI REMOVAL (SMD)	
FL605	1-234-494-21	FILTER, EMI REMOVAL (SMD)	
FL606	1-234-494-21	FILTER, EMI REMOVAL (SMD)	
FL607	1-234-494-21	FILTER, EMI REMOVAL (SMD)	
FL701	1-234-494-21	FILTER, EMI REMOVAL (SMD)	
FL702	1-234-494-21	FILTER, EMI REMOVAL (SMD)	
FL703	1-234-494-21	FILTER, EMI REMOVAL (SMD)	
FL704	1-234-494-21	FILTER, EMI REMOVAL (SMD)	
FL705	1-234-494-21	FILTER, EMI REMOVAL (SMD)	
FL706	1-234-494-21	FILTER, EMI REMOVAL (SMD)	
FL807	1-234-494-21	FILTER, EMI REMOVAL (SMD)	
FL810	1-234-494-21	FILTER, EMI REMOVAL (SMD)	
FL811	1-233-893-21	FILTER, CHIP EMI	
FL812	1-233-893-21	FILTER, CHIP EMI	
		< IC >	
IC001	8-759-583-47	IC uPC2933T-E2	
IC002	8-759-473-95	IC uPC2905T-E1	
IC004	8-759-473-95	IC uPC2905T-E1	
IC005	8-759-583-47	IC uPC2933T-E2	
IC006	6-700-398-01	IC uPC2918T-E1	
IC202	6-704-069-01	IC HY57V283220T-6	
* IC203	6-703-671-01	IC BR9040F-WE2	
IC205	6-804-534-01	IC MR27V3202F-13BTP04B9	
IC206	6-707-406-01	IC ZIVA5X-C2F-B	
IC215	6-707-563-01	IC TC47VCX16841FT (EL)	
IC301	8-753-228-87	IC CXP973064-245R	
IC302	6-704-004-01	IC BR24L16F-WE2	
IC303	6-700-407-01	IC SM8707GV-G-E2	
IC401	8-752-408-73	IC CXD3068Q	
IC402	8-759-693-13	IC NJM12904V (TE2)	
IC501	6-702-157-01	IC FAN8035L	
IC600	8-759-473-95	IC uPC2905T-E1	
IC601	6-701-011-01	IC uPC2910T-E1	
IC603	8-759-693-13	IC NJM12904V (TE2)	
IC604	6-704-037-01	IC IS61LV6416-10TLT	
IC605	8-759-835-63	IC NJM2391DL1-26 (TE1)	
IC606	8-759-825-15	IC LC89056W-E	
IC607	6-705-900-01	IC CXD9718BQ	
IC608	6-703-704-01	IC AK4381VT-E2	
IC609	6-701-834-01	IC PCM1802DBR	
IC612	6-703-372-01	IC CXD9742Q	
IC701	6-703-552-01	IC TMC57929PGF-RDP	
IC703	8-759-693-13	IC NJM12904V (TE2)	
IC704	6-702-301-01	IC TK11125CSCL-G	
IC706	8-759-564-30	IC MSM51V18165F-60TSKR1	
IC801	8-752-416-77	IC CXD2753R	
IC802	8-759-058-64	IC TC7S32FU (TE85R)	
IC803	6-704-753-01	IC SN74AHC2G74HDCUR	
IC808	6-702-336-01	IC MSM56V16160F-8TK7R1	
IC812	8-759-549-15	IC SN74LV245APWR	
IC813	8-759-549-15	IC SN74LV245APWR	
IC814	6-704-768-01	IC SN74AHC2G157HDCU3	
IC900	8-759-238-47	IC TC74HCT7007AF (EL)	
IC901	6-804-543-01	IC uPD703033BYGF-M60-3BA-A	
IC902	6-703-679-11	IC PT8300R-TP	
IC903	6-703-873-01	IC PST3241NL	
IC904	8-759-648-48	IC TC7W34FU (TE12R)	
IC906	6-703-679-11	IC PT8300R-TP	
IC907	6-706-087-01	IC PST3645NR	

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Ref. No.	Part No.	Description			Remark
		< JUMPER RESISTOR >			
JW900	1-218-941-81	RES-CHIP	100	5%	1/16W
JW903	1-218-990-11	SHORT CHIP	0		
		< COIL >			
L301	1-414-754-11	INDUCTOR	10uH		
L600	1-414-754-11	INDUCTOR	10uH		
L601	1-414-754-11	INDUCTOR	10uH		
L602	1-414-754-11	INDUCTOR	10uH		
		< TRANSISTOR >			
Q301	8-729-027-43	TRANSISTOR	DTC114EKA-T146		
Q302	8-729-027-43	TRANSISTOR	DTC114EKA-T146		
Q900	8-729-027-23	TRANSISTOR	DTA114EKA-T146		
Q901	8-729-120-28	TRANSISTOR	2SC2412K-T-146-QR		
Q902	8-729-027-23	TRANSISTOR	DTA114EKA-T146		
Q903	8-729-024-91	TRANSISTOR	2SC2712-GL-TE85L		
Q906	8-729-024-91	TRANSISTOR	2SC2712-GL-TE85L		
Q907	8-729-024-91	TRANSISTOR	2SC2712-GL-TE85L		
Q908	8-729-901-00	TRANSISTOR	DTC124EKA-T146		
Q909	8-729-901-00	TRANSISTOR	DTC124EKA-T146		
Q910	8-729-901-00	TRANSISTOR	DTC124EKA-T146		
Q913	8-729-026-49	TRANSISTOR	2SA1037AK-T146-QR		
Q914	8-729-024-91	TRANSISTOR	2SC2712-GL-TE85L		
		< RESISTOR >			
R012	1-218-945-11	RES-CHIP	220	5%	1/16W
R019	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R027	1-218-941-81	RES-CHIP	100	5%	1/16W
R033	1-218-949-11	RES-CHIP	470	5%	1/16W
R035	1-218-949-11	RES-CHIP	470	5%	1/16W
R038	1-218-949-11	RES-CHIP	470	5%	1/16W
R040	1-218-949-11	RES-CHIP	470	5%	1/16W
R042	1-218-949-11	RES-CHIP	470	5%	1/16W
R043	1-218-953-11	RES-CHIP	1K	5%	1/16W
R044	1-218-949-11	RES-CHIP	470	5%	1/16W
R045	1-218-949-11	RES-CHIP	470	5%	1/16W
R046	1-218-949-11	RES-CHIP	470	5%	1/16W
R048	1-218-941-81	RES-CHIP	100	5%	1/16W
R049	1-218-941-81	RES-CHIP	100	5%	1/16W
R050	1-218-941-81	RES-CHIP	100	5%	1/16W
R059	1-218-990-11	SHORT CHIP	0		
R064	1-218-953-11	RES-CHIP	1K	5%	1/16W
R071	1-218-990-11	SHORT CHIP	0		
R075	1-218-941-81	RES-CHIP	100	5%	1/16W
R076	1-218-990-11	SHORT CHIP	0		
R081	1-218-990-11	SHORT CHIP	0		
R085	1-218-990-11	SHORT CHIP	0		
R092	1-218-990-11	SHORT CHIP	0		
R093	1-218-990-11	SHORT CHIP	0		
R094	1-218-990-11	SHORT CHIP	0		
R097	1-218-953-11	RES-CHIP	1K	5%	1/16W
R098	1-218-953-11	RES-CHIP	1K	5%	1/16W
R099	1-218-953-11	RES-CHIP	1K	5%	1/16W
R100	1-218-953-11	RES-CHIP	1K	5%	1/16W
R101	1-218-953-11	RES-CHIP	1K	5%	1/16W
R102	1-218-953-11	RES-CHIP	1K	5%	1/16W

Ref. No.	Part No.	Description			Remark
R103	1-218-953-11	RES-CHIP	1K	5%	1/16W
R104	1-218-953-11	RES-CHIP	1K	5%	1/16W
R202	1-218-990-11	SHORT CHIP	0		
R203	1-208-869-11	METAL CHIP	180	0.5%	1/16W
R204	1-218-952-11	RES-CHIP	820	5%	1/16W
R206	1-218-990-11	SHORT CHIP	0		
R207	1-218-285-11	METAL CHIP	75	5%	1/10W
R208	1-218-285-11	METAL CHIP	75	5%	1/10W
R209	1-218-285-11	METAL CHIP	75	5%	1/10W
R210	1-218-285-11	METAL CHIP	75	5%	1/10W
R212	1-218-933-11	RES-CHIP	22	5%	1/16W
R213	1-218-990-11	SHORT CHIP	0		
R215	1-218-935-11	RES-CHIP	33	5%	1/16W
R216	1-218-935-11	RES-CHIP	33	5%	1/16W
R217	1-218-935-11	RES-CHIP	33	5%	1/16W
R218	1-218-935-11	RES-CHIP	33	5%	1/16W
R219	1-218-935-11	RES-CHIP	33	5%	1/16W
R220	1-218-935-11	RES-CHIP	33	5%	1/16W
R221	1-218-935-11	RES-CHIP	33	5%	1/16W
R222	1-218-935-11	RES-CHIP	33	5%	1/16W
R223	1-218-935-11	RES-CHIP	33	5%	1/16W
R224	1-218-935-11	RES-CHIP	33	5%	1/16W
R225	1-218-935-11	RES-CHIP	33	5%	1/16W
R226	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R227	1-218-935-11	RES-CHIP	33	5%	1/16W
R228	1-218-935-11	RES-CHIP	33	5%	1/16W
R229	1-218-935-11	RES-CHIP	33	5%	1/16W
R230	1-218-935-11	RES-CHIP	33	5%	1/16W
R231	1-218-935-11	RES-CHIP	33	5%	1/16W
R232	1-218-990-11	SHORT CHIP	0		
R233	1-218-965-11	RES-CHIP	10K	5%	1/16W
R234	1-218-285-11	METAL CHIP	75	5%	1/10W
R236	1-208-683-11	METAL CHIP	1K	0.5%	1/16W
R238	1-218-941-81	RES-CHIP	100	5%	1/16W
R239	1-218-973-11	RES-CHIP	47K	5%	1/16W
R241	1-218-953-11	RES-CHIP	1K	5%	1/16W
R242	1-218-965-11	RES-CHIP	10K	5%	1/16W
R243	1-218-953-11	RES-CHIP	1K	5%	1/16W
R244	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R245	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R246	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R247	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R248	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R249	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R250	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R252	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R253	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R255	1-218-953-11	RES-CHIP	1K	5%	1/16W
R256	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R257	1-500-284-21	INDUCTOR, FERRITE BEAD			
R258	1-500-284-21	INDUCTOR, FERRITE BEAD			
R259	1-500-284-21	INDUCTOR, FERRITE BEAD			
R260	1-500-284-21	INDUCTOR, FERRITE BEAD			
R261	1-500-284-21	INDUCTOR, FERRITE BEAD			
R262	1-218-285-11	METAL CHIP	75	5%	1/10W
R263	1-218-285-11	METAL CHIP	75	5%	1/10W
R264	1-218-285-11	METAL CHIP	75	5%	1/10W
R265	1-218-285-11	METAL CHIP	75	5%	1/10W
R266	1-218-285-11	METAL CHIP	75	5%	1/10W

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Ref. No.	Part No.	Description			Remark
R303	1-218-933-11	RES-CHIP	22	5%	1/16W
R304	1-218-933-11	RES-CHIP	22	5%	1/16W
R305	1-218-965-11	RES-CHIP	10K	5%	1/16W
R306	1-218-933-11	RES-CHIP	22	5%	1/16W
R307	1-218-933-11	RES-CHIP	22	5%	1/16W
R308	1-218-933-11	RES-CHIP	22	5%	1/16W
R311	1-218-933-11	RES-CHIP	22	5%	1/16W
R312	1-218-965-11	RES-CHIP	10K	5%	1/16W
R316	1-218-965-11	RES-CHIP	10K	5%	1/16W
R317	1-218-941-81	RES-CHIP	100	5%	1/16W
R318	1-218-941-81	RES-CHIP	100	5%	1/16W
R321	1-218-941-81	RES-CHIP	100	5%	1/16W
R323	1-218-941-81	RES-CHIP	100	5%	1/16W
R324	1-218-990-11	SHORT CHIP	0		
R325	1-218-971-11	RES-CHIP	33K	5%	1/16W
R326	1-218-941-81	RES-CHIP	100	5%	1/16W
R327	1-218-941-81	RES-CHIP	100	5%	1/16W
R328	1-218-941-81	RES-CHIP	100	5%	1/16W
R329	1-218-941-81	RES-CHIP	100	5%	1/16W
R330	1-218-941-81	RES-CHIP	100	5%	1/16W
R331	1-218-945-11	RES-CHIP	220	5%	1/16W
R332	1-218-965-11	RES-CHIP	10K	5%	1/16W
R333	1-218-965-11	RES-CHIP	10K	5%	1/16W
R335	1-218-933-11	RES-CHIP	22	5%	1/16W
R337	1-218-941-81	RES-CHIP	100	5%	1/16W
R344	1-218-953-11	RES-CHIP	1K	5%	1/16W
R346	1-218-953-11	RES-CHIP	1K	5%	1/16W
R350	1-218-941-81	RES-CHIP	100	5%	1/16W
R353	1-218-965-11	RES-CHIP	10K	5%	1/16W
R354	1-218-989-11	RES-CHIP	1M	5%	1/16W
R355	1-218-933-11	RES-CHIP	22	5%	1/16W
R356	1-218-939-11	RES-CHIP	68	5%	1/16W
R357	1-218-939-11	RES-CHIP	68	5%	1/16W
R358	1-218-939-11	RES-CHIP	68	5%	1/16W
R359	1-218-965-11	RES-CHIP	10K	5%	1/16W
R360	1-218-965-11	RES-CHIP	10K	5%	1/16W
R361	1-218-965-11	RES-CHIP	10K	5%	1/16W
R362	1-218-943-11	RES-CHIP	150	5%	1/16W
R363	1-218-965-11	RES-CHIP	10K	5%	1/16W
R364	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R401	1-218-990-11	SHORT CHIP	0		
R411	1-218-990-11	SHORT CHIP	0		
R412	1-218-965-11	RES-CHIP	10K	5%	1/16W
R413	1-218-965-11	RES-CHIP	10K	5%	1/16W
R414	1-218-990-11	SHORT CHIP	0		
R416	1-218-990-11	SHORT CHIP	0		
R418	1-218-965-11	RES-CHIP	10K	5%	1/16W
R419	1-218-975-11	RES-CHIP	68K	5%	1/16W
R420	1-218-990-11	SHORT CHIP	0		
R421	1-218-953-11	RES-CHIP	1K	5%	1/16W
R423	1-218-953-11	RES-CHIP	1K	5%	1/16W
R425	1-218-953-11	RES-CHIP	1K	5%	1/16W
R426	1-218-953-11	RES-CHIP	1K	5%	1/16W
R428	1-218-953-11	RES-CHIP	1K	5%	1/16W
R429	1-218-953-11	RES-CHIP	1K	5%	1/16W

Ref. No.	Part No.	Description			Remark
R430	1-218-953-11	RES-CHIP	1K	5%	1/16W
R433	1-218-973-11	RES-CHIP	47K	5%	1/16W
R434	1-218-973-11	RES-CHIP	47K	5%	1/16W
R437	1-218-973-11	RES-CHIP	47K	5%	1/16W
R439	1-218-947-11	RES-CHIP	330	5%	1/16W
R440	1-218-973-11	RES-CHIP	47K	5%	1/16W
R441	1-218-953-11	RES-CHIP	1K	5%	1/16W
R442	1-218-965-11	RES-CHIP	10K	5%	1/16W
R443	1-218-973-11	RES-CHIP	47K	5%	1/16W
R444	1-218-985-11	RES-CHIP	470K	5%	1/16W
R445	1-218-953-11	RES-CHIP	1K	5%	1/16W
R446	1-218-965-11	RES-CHIP	10K	5%	1/16W
R447	1-218-965-11	RES-CHIP	10K	5%	1/16W
R448	1-218-953-11	RES-CHIP	1K	5%	1/16W
R449	1-218-971-11	RES-CHIP	33K	5%	1/16W
R450	1-218-953-11	RES-CHIP	1K	5%	1/16W
R451	1-218-965-11	RES-CHIP	10K	5%	1/16W
R452	1-218-989-11	RES-CHIP	1M	5%	1/16W
R453	1-218-989-11	RES-CHIP	1M	5%	1/16W
R455	1-218-977-11	RES-CHIP	100K	5%	1/16W
R457	1-218-959-11	RES-CHIP	3.3K	5%	1/16W
R510	1-208-939-11	METAL CHIP	150K	0.5%	1/16W
R511	1-208-939-11	METAL CHIP	150K	0.5%	1/16W
R512	1-208-929-11	METAL CHIP	56K	0.5%	1/16W
R513	1-208-929-11	METAL CHIP	56K	0.5%	1/16W
R514	1-218-965-11	RES-CHIP	10K	5%	1/16W
R515	1-218-965-11	RES-CHIP	10K	5%	1/16W
R516	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R517	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R519	1-218-977-11	RES-CHIP	100K	5%	1/16W
R520	1-218-965-11	RES-CHIP	10K	5%	1/16W
R521	1-218-977-11	RES-CHIP	100K	5%	1/16W
R522	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R523	1-218-965-11	RES-CHIP	10K	5%	1/16W
R524	1-218-965-11	RES-CHIP	10K	5%	1/16W
R525	1-218-965-11	RES-CHIP	10K	5%	1/16W
R527	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R529	1-218-971-11	RES-CHIP	33K	5%	1/16W
R530	1-218-974-11	RES-CHIP	56K	5%	1/16W
R531	1-218-990-11	SHORT CHIP	0		
R532	1-218-990-11	SHORT CHIP	0		
R533	1-218-971-11	RES-CHIP	33K	5%	1/16W
R534	1-218-974-11	RES-CHIP	56K	5%	1/16W
R535	1-218-990-11	SHORT CHIP	0		
R536	1-220-210-11	RES-CHIP	200K	5%	1/16W
R538	1-218-977-11	RES-CHIP	100K	5%	1/16W
R540	1-218-965-11	RES-CHIP	10K	5%	1/16W
R541	1-218-977-11	RES-CHIP	100K	5%	1/16W
R544	1-218-977-11	RES-CHIP	100K	5%	1/16W
R545	1-218-977-11	RES-CHIP	100K	5%	1/16W
R579	1-218-964-11	RES-CHIP	8.2K	5%	1/16W
R580	1-218-971-11	RES-CHIP	33K	5%	1/16W
R581	1-218-966-11	RES-CHIP	12K	5%	1/16W
R582	1-218-965-11	RES-CHIP	10K	5%	1/16W
R583	1-218-965-11	RES-CHIP	10K	5%	1/16W
R590	1-218-953-11	RES-CHIP	1K	5%	1/16W
R592	1-218-990-11	SHORT CHIP	0		
R599	1-218-990-11	SHORT CHIP	0		

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Ref. No.	Part No.	Description			Remark
R600	1-218-941-81	RES-CHIP	100	5%	1/16W
R601	1-218-990-11	SHORT CHIP	0		
R602	1-218-989-11	RES-CHIP	1M	5%	1/16W
R603	1-218-941-81	RES-CHIP	100	5%	1/16W
R604	1-218-941-81	RES-CHIP	100	5%	1/16W
R605	1-218-953-11	RES-CHIP	1K	5%	1/16W
R606	1-218-941-81	RES-CHIP	100	5%	1/16W
R607	1-218-941-81	RES-CHIP	100	5%	1/16W
R608	1-218-959-11	RES-CHIP	3.3K	5%	1/16W
R609	1-218-949-11	RES-CHIP	470	5%	1/16W
R610	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R611	1-218-941-81	RES-CHIP	100	5%	1/16W
R612	1-218-973-11	RES-CHIP	47K	5%	1/16W
R613	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R614	1-218-971-11	RES-CHIP	33K	5%	1/16W
R615	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R616	1-218-962-11	RES-CHIP	5.6K	5%	1/16W
R618	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R619	1-218-973-11	RES-CHIP	47K	5%	1/16W
R621	1-218-941-81	RES-CHIP	100	5%	1/16W
R622	1-218-941-81	RES-CHIP	100	5%	1/16W
R623	1-218-941-81	RES-CHIP	100	5%	1/16W
R624	1-218-941-81	RES-CHIP	100	5%	1/16W
R625	1-218-959-11	RES-CHIP	3.3K	5%	1/16W
R626	1-218-953-11	RES-CHIP	1K	5%	1/16W
R627	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R628	1-218-941-81	RES-CHIP	100	5%	1/16W
R629	1-218-941-81	RES-CHIP	100	5%	1/16W
R630	1-218-949-11	RES-CHIP	470	5%	1/16W
R631	1-218-941-81	RES-CHIP	100	5%	1/16W
R634	1-218-953-11	RES-CHIP	1K	5%	1/16W
R637	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R639	1-218-941-81	RES-CHIP	100	5%	1/16W
R640	1-218-941-81	RES-CHIP	100	5%	1/16W
R642	1-218-941-81	RES-CHIP	100	5%	1/16W
R645	1-218-989-11	RES-CHIP	1M	5%	1/16W
R648	1-218-935-11	RES-CHIP	33	5%	1/16W
R655	1-218-941-81	RES-CHIP	100	5%	1/16W
R657	1-218-953-11	RES-CHIP	1K	5%	1/16W
R658	1-218-941-81	RES-CHIP	100	5%	1/16W
R659	1-218-935-11	RES-CHIP	33	5%	1/16W
R661	1-218-941-81	RES-CHIP	100	5%	1/16W
R662	1-218-941-81	RES-CHIP	100	5%	1/16W
R663	1-218-941-81	RES-CHIP	100	5%	1/16W
R664	1-218-941-81	RES-CHIP	100	5%	1/16W
R666	1-218-941-81	RES-CHIP	100	5%	1/16W
R667	1-218-941-81	RES-CHIP	100	5%	1/16W
R671	1-218-941-81	RES-CHIP	100	5%	1/16W
R672	1-218-941-81	RES-CHIP	100	5%	1/16W
R673	1-218-945-11	RES-CHIP	220	5%	1/16W
R674	1-218-945-11	RES-CHIP	220	5%	1/16W
R675	1-218-945-11	RES-CHIP	220	5%	1/16W
R676	1-218-945-11	RES-CHIP	220	5%	1/16W
R677	1-218-945-11	RES-CHIP	220	5%	1/16W
R678	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R679	1-218-941-81	RES-CHIP	100	5%	1/16W
R680	1-218-941-81	RES-CHIP	100	5%	1/16W
R683	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R685	1-218-965-11	RES-CHIP	10K	5%	1/16W
R687	1-218-953-11	RES-CHIP	1K	5%	1/16W
R688	1-218-990-11	SHORT CHIP	0		
R689	1-218-965-11	RES-CHIP	10K	5%	1/16W
R691	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R692	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R697	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R698	1-218-965-11	RES-CHIP	10K	5%	1/16W
R699	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R702	1-218-965-11	RES-CHIP	10K	5%	1/16W
R703	1-218-965-11	RES-CHIP	10K	5%	1/16W
R704	1-218-965-11	RES-CHIP	10K	5%	1/16W
R705	1-218-965-11	RES-CHIP	10K	5%	1/16W
R706	1-218-965-11	RES-CHIP	10K	5%	1/16W
R707	1-218-941-81	RES-CHIP	100	5%	1/16W
R708	1-218-985-11	RES-CHIP	470K	5%	1/16W
R709	1-218-979-11	RES-CHIP	150K	5%	1/16W
R710	1-218-965-11	RES-CHIP	10K	5%	1/16W
R711	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R712	1-218-965-11	RES-CHIP	10K	5%	1/16W
R713	1-218-965-11	RES-CHIP	10K	5%	1/16W
R714	1-218-965-11	RES-CHIP	10K	5%	1/16W
R715	1-218-965-11	RES-CHIP	10K	5%	1/16W
R716	1-218-941-81	RES-CHIP	100	5%	1/16W
R717	1-218-977-11	RES-CHIP	100K	5%	1/16W
R718	1-218-965-11	RES-CHIP	10K	5%	1/16W
R719	1-218-953-11	RES-CHIP	1K	5%	1/16W
R720	1-218-953-11	RES-CHIP	1K	5%	1/16W
R721	1-208-923-11	METAL CHIP	33K	0.5%	1/16W
R724	1-208-683-11	METAL CHIP	1K	0.5%	1/16W
R725	1-208-689-11	METAL CHIP	1.8K	0.5%	1/16W
R726	1-208-935-11	METAL CHIP	100K	0.5%	1/16W
R727	1-208-695-11	METAL CHIP	3.3K	0.5%	1/16W
R728	1-208-911-11	METAL CHIP	10K	0.5%	1/16W
R729	1-218-964-11	RES-CHIP	8.2K	5%	1/16W
R730	1-218-933-11	RES-CHIP	22	5%	1/16W
R731	1-218-933-11	RES-CHIP	22	5%	1/16W
R732	1-218-965-11	RES-CHIP	10K	5%	1/16W
R735	1-218-965-11	RES-CHIP	10K	5%	1/16W
R737	1-218-965-11	RES-CHIP	10K	5%	1/16W
R738	1-218-933-11	RES-CHIP	22	5%	1/16W
R739	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R740	1-218-953-11	RES-CHIP	1K	5%	1/16W
R741	1-218-933-11	RES-CHIP	22	5%	1/16W
R742	1-218-933-11	RES-CHIP	22	5%	1/16W
R743	1-218-933-11	RES-CHIP	22	5%	1/16W
R744	1-218-933-11	RES-CHIP	22	5%	1/16W
R745	1-218-973-11	RES-CHIP	47K	5%	1/16W
R746	1-218-973-11	RES-CHIP	47K	5%	1/16W
R747	1-218-971-11	RES-CHIP	33K	5%	1/16W
R748	1-218-971-11	RES-CHIP	33K	5%	1/16W
R750	1-218-965-11	RES-CHIP	10K	5%	1/16W
R760	1-218-990-11	SHORT CHIP	0		
R762	1-218-969-11	RES-CHIP	22K	5%	1/16W
R763	1-218-964-11	RES-CHIP	8.2K	5%	1/16W
R764	1-218-989-11	RES-CHIP	1M	5%	1/16W
R765	1-218-969-11	RES-CHIP	22K	5%	1/16W
R767	1-218-973-11	RES-CHIP	47K	5%	1/16W

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Ref. No.	Part No.	Description			Remark
R768	1-218-990-11	SHORT CHIP	0		
R771	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R772	1-218-933-11	RES-CHIP	22	5%	1/16W
R776	1-218-990-11	SHORT CHIP	0		
R777	1-218-990-11	SHORT CHIP	0		
R778	1-218-977-11	RES-CHIP	100K	5%	1/16W
R780	1-218-990-11	SHORT CHIP	0		
R781	1-218-990-11	SHORT CHIP	0		
R799	1-218-990-11	SHORT CHIP	0		
R800	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R803	1-218-941-81	RES-CHIP	100	5%	1/16W
R804	1-218-990-11	SHORT CHIP	0		
R805	1-218-965-11	RES-CHIP	10K	5%	1/16W
R806	1-218-990-11	SHORT CHIP	0		
R808	1-218-965-11	RES-CHIP	10K	5%	1/16W
R821	1-218-933-11	RES-CHIP	22	5%	1/16W
R822	1-218-933-11	RES-CHIP	22	5%	1/16W
R823	1-218-933-11	RES-CHIP	22	5%	1/16W
R826	1-218-933-11	RES-CHIP	22	5%	1/16W
R827	1-218-941-81	RES-CHIP	100	5%	1/16W
R828	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R829	1-218-941-81	RES-CHIP	100	5%	1/16W
R830	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R831	1-218-971-11	RES-CHIP	33K	5%	1/16W
R839	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R842	1-218-965-11	RES-CHIP	10K	5%	1/16W
R847	1-218-933-11	RES-CHIP	22	5%	1/16W
R848	1-218-933-11	RES-CHIP	22	5%	1/16W
R849	1-218-933-11	RES-CHIP	22	5%	1/16W
R850	1-218-933-11	RES-CHIP	22	5%	1/16W
R867	1-218-990-11	SHORT CHIP	0		
R882	1-218-965-11	RES-CHIP	10K	5%	1/16W
R883	1-218-965-11	RES-CHIP	10K	5%	1/16W
R884	1-218-965-11	RES-CHIP	10K	5%	1/16W
R885	1-218-965-11	RES-CHIP	10K	5%	1/16W
R886	1-218-965-11	RES-CHIP	10K	5%	1/16W
R887	1-218-965-11	RES-CHIP	10K	5%	1/16W
R888	1-218-965-11	RES-CHIP	10K	5%	1/16W
R889	1-218-965-11	RES-CHIP	10K	5%	1/16W
R890	1-218-941-81	RES-CHIP	100	5%	1/16W
R891	1-218-941-81	RES-CHIP	100	5%	1/16W
R892	1-218-941-81	RES-CHIP	100	5%	1/16W
R894	1-218-965-11	RES-CHIP	10K	5%	1/16W
R895	1-218-965-11	RES-CHIP	10K	5%	1/16W
R896	1-218-973-11	RES-CHIP	47K	5%	1/16W
R897	1-218-965-11	RES-CHIP	10K	5%	1/16W
R898	1-218-965-11	RES-CHIP	10K	5%	1/16W
R899	1-218-965-11	RES-CHIP	10K	5%	1/16W
R900	1-218-941-81	RES-CHIP	100	5%	1/16W
R901	1-218-941-81	RES-CHIP	100	5%	1/16W
R902	1-218-941-81	RES-CHIP	100	5%	1/16W
R903	1-218-941-81	RES-CHIP	100	5%	1/16W
R904	1-218-941-81	RES-CHIP	100	5%	1/16W
R905	1-218-941-81	RES-CHIP	100	5%	1/16W
R906	1-218-959-11	RES-CHIP	3.3K	5%	1/16W
R907	1-218-959-11	RES-CHIP	3.3K	5%	1/16W
R908	1-218-965-11	RES-CHIP	10K	5%	1/16W
R909	1-218-965-11	RES-CHIP	10K	5%	1/16W
R910	1-218-941-81	RES-CHIP	100	5%	1/16W
R911	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R912	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R913	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R914	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R915	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R916	1-218-941-81	RES-CHIP	100	5%	1/16W
R917	1-218-952-11	RES-CHIP	820	5%	1/16W
R918	1-218-952-11	RES-CHIP	820	5%	1/16W
R919	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R920	1-218-941-81	RES-CHIP	100	5%	1/16W
R921	1-218-941-81	RES-CHIP	100	5%	1/16W
R922	1-218-965-11	RES-CHIP	10K	5%	1/16W
R924	1-218-941-81	RES-CHIP	100	5%	1/16W
R925	1-218-941-81	RES-CHIP	100	5%	1/16W
R926	1-218-941-81	RES-CHIP	100	5%	1/16W
R927	1-218-941-81	RES-CHIP	100	5%	1/16W
R928	1-218-990-11	SHORT CHIP	0		
R929	1-218-964-11	RES-CHIP	8.2K	5%	1/16W
R930	1-218-965-11	RES-CHIP	10K	5%	1/16W
R931	1-218-953-11	RES-CHIP	1K	5%	1/16W
R932	1-218-965-11	RES-CHIP	10K	5%	1/16W
R933	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R935	1-218-969-11	RES-CHIP	22K	5%	1/16W (FR8)
R935	1-218-965-11	RES-CHIP	10K	5%	1/16W (FR9)
R936	1-218-959-11	RES-CHIP	3.3K	5%	1/16W
R938	1-218-945-11	RES-CHIP	220	5%	1/16W
R939	1-218-965-11	RES-CHIP	10K	5%	1/16W
R940	1-218-945-11	RES-CHIP	220	5%	1/16W
R941	1-218-965-11	RES-CHIP	10K	5%	1/16W
R942	1-218-965-11	RES-CHIP	10K	5%	1/16W
R943	1-218-965-11	RES-CHIP	10K	5%	1/16W
R944	1-218-965-11	RES-CHIP	10K	5%	1/16W
R945	1-218-973-11	RES-CHIP	47K	5%	1/16W
R949	1-218-965-11	RES-CHIP	10K	5%	1/16W
R950	1-218-973-11	RES-CHIP	47K	5%	1/16W
R951	1-218-965-11	RES-CHIP	10K	5%	1/16W
R953	1-218-941-81	RES-CHIP	100	5%	1/16W
R954	1-218-965-11	RES-CHIP	10K	5%	1/16W
R955	1-218-965-11	RES-CHIP	10K	5%	1/16W
R957	1-218-965-11	RES-CHIP	10K	5%	1/16W
R959	1-218-990-11	SHORT CHIP	0		
R960	1-218-965-11	RES-CHIP	10K	5%	1/16W
R961	1-218-965-11	RES-CHIP	10K	5%	1/16W
R962	1-218-965-11	RES-CHIP	10K	5%	1/16W
R963	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R964	1-218-977-11	RES-CHIP	100K	5%	1/16W
R966	1-218-945-11	RES-CHIP	220	5%	1/16W
R967	1-218-941-81	RES-CHIP	100	5%	1/16W
R968	1-218-941-81	RES-CHIP	100	5%	1/16W
R969	1-218-965-11	RES-CHIP	10K	5%	1/16W (FR1)
R969	1-218-973-11	RES-CHIP	47K	5%	1/16W (FR8)
R971	1-218-965-11	RES-CHIP	10K	5%	1/16W
R972	1-218-965-11	RES-CHIP	10K	5%	1/16W
R973	1-218-990-11	SHORT CHIP	0		
R977	1-218-969-11	RES-CHIP	22K	5%	1/16W
R978	1-218-953-11	RES-CHIP	1K	5%	1/16W
R979	1-218-973-11	RES-CHIP	47K	5%	1/16W

Ref. No.	Part No.	Description			Remark
R980	1-218-973-11	RES-CHIP	47K	5%	1/16W
R981	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R983	1-218-973-11	RES-CHIP	47K	5%	1/16W
R984	1-218-973-11	RES-CHIP	47K	5%	1/16W
R985	1-218-985-11	RES-CHIP	470K	5%	1/16W
R986	1-218-973-11	RES-CHIP	47K	5%	1/16W
R987	1-218-973-11	RES-CHIP	47K	5%	1/16W
R989	1-218-990-11	SHORT CHIP	0		
R990	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R991	1-218-965-11	RES-CHIP	10K	5%	1/16W
R992	1-218-965-11	RES-CHIP	10K	5%	1/16W
R994	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R995	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R996	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R997	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R998	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R1000	1-218-945-11	RES-CHIP	220	5%	1/16W
R1001	1-218-945-11	RES-CHIP	220	5%	1/16W
R1002	1-218-945-11	RES-CHIP	220	5%	1/16W
R1003	1-218-945-11	RES-CHIP	220	5%	1/16W
R1004	1-218-945-11	RES-CHIP	220	5%	1/16W
R1005	1-218-945-11	RES-CHIP	220	5%	1/16W
R1006	1-218-945-11	RES-CHIP	220	5%	1/16W
R1007	1-218-945-11	RES-CHIP	220	5%	1/16W
R1008	1-218-945-11	RES-CHIP	220	5%	1/16W
R1009	1-218-945-11	RES-CHIP	220	5%	1/16W
R1010	1-218-945-11	RES-CHIP	220	5%	1/16W
R1011	1-218-945-11	RES-CHIP	220	5%	1/16W
R1012	1-218-945-11	RES-CHIP	220	5%	1/16W
		< NETWORK RESISTOR >			
RB901	1-233-270-11	NETWORK, RES (8 GANG) 10K			
RB902	1-233-270-11	NETWORK, RES (8 GANG) 10K			
		< VIBRATOR >			
X301	1-795-375-11	VIBRATOR, CERAMIC 20MHz			
X302	1-795-630-11	VIBRATOR, CRYSTAL 27MHz			
X600	1-781-465-21	VIBRATOR, CRYSTAL 12.288MHz			
X601	1-813-325-11	VIBRATOR, CRYSTAL 13.9MHz			
X901	1-795-375-11	VIBRATOR, CERAMIC 20MHz			
**********					
	A-4751-757-A	FL BOARD, COMPLETE **********			
		< CAPACITOR >			
C805	1-126-795-11	ELECT	10uF	20%	50V
C807	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C841	1-117-370-11	CERAMIC CHIP	10uF		10V
C842	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C843	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C846	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C847	1-164-245-11	CERAMIC CHIP	0.015uF	10%	25V
C848	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C849	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C850	1-162-923-11	CERAMIC CHIP	47PF	5%	50V
		< CONNECTOR >			
CN803	1-779-554-21	CONNECTOR, FFC (LIF (NON-ZIF)) 17P			
CN812	1-784-859-21	CONNECTOR, FFC (LIF (NON-ZIF)) 7P			
		< FERRITE BEAD >			
FB005	1-469-144-21	FERRITE, EMI (SMD)(2012)			
FB807	1-414-813-11	FERRITE, EMI (SMD)(2012)			
		< FLUORESCENT INDICATOR >			
FL801	1-519-759-11	INDICATOR TUBE, FLUORESCENT			

Ref. No.	Part No.	Description			Remark
		< IC >			
IC801	8-759-826-33	IC NJL73H400A (R)			
IC803	6-705-899-01	IC ML9208-03MBZ03B			
		< TRANSISTOR >			
Q810	8-729-120-28	TRANSISTOR	2SC1623-T1-L5L6		
		< RESISTOR >			
R828	1-216-864-11	SHORT CHIP	0		
R840	1-216-827-11	METAL CHIP	3.3K	5%	1/10W
R843	1-216-833-11	METAL CHIP	10K	5%	1/10W
R844	1-216-809-11	METAL CHIP	100	5%	1/10W
R849	1-216-833-11	METAL CHIP	10K	5%	1/10W
R851	1-216-809-11	METAL CHIP	100	5%	1/10W
R852	1-216-805-11	METAL CHIP	47	5%	1/10W
R853	1-216-809-11	METAL CHIP	100	5%	1/10W
R877	1-216-821-11	METAL CHIP	1K	5%	1/10W
R878	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R879	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R880	1-216-821-11	METAL CHIP	1K	5%	1/10W
R881	1-216-821-11	METAL CHIP	1K	5%	1/10W
R882	1-216-821-11	METAL CHIP	1K	5%	1/10W
**********					
		HP BOARD *********			
		< CAPACITOR >			
C800	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C801	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C802	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C803	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C804	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C806	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C853	1-162-923-11	CERAMIC CHIP	47PF	5%	50V
C854	1-162-923-11	CERAMIC CHIP	47PF	5%	50V
		< CONNECTOR >			
* CN811	1-566-002-11	PIN, CONNECTOR (PC BOARD) 5P			
		< DIODE >			
D800	8-719-988-61	DIODE 1SS355TE-17			
D801	8-719-988-61	DIODE 1SS355TE-17			
		< FERRITE BEAD >			
FB800	1-500-284-21	INDUCTOR, FERRITE BEAD			
FB802	1-469-144-21	FERRITE, EMI (SMD)(2012)			
FB803	1-469-144-21	FERRITE, EMI (SMD)(2012)			
FB805	1-469-144-21	FERRITE, EMI (SMD)(2012)			
FB810	1-469-324-21	FERRITE, EMI (SMD)(2012)			
		< JACK >			
J800	1-794-453-11	JACK (PHONES)			
		< COIL >			
L800	1-410-387-11	INDUCTOR	33uH		
L801	1-410-387-11	INDUCTOR	33uH		
L802	1-469-144-21	FERRITE, EMI (SMD)(2012)			
L803	1-469-144-21	FERRITE, EMI (SMD)(2012)			

HP **IO**

Ref. No.	Part No.	Description			Remark
		< TRANSISTOR >			
Q800	8-729-920-31	TRANSISTOR	DTC343TK-T-146		
Q801	8-729-920-31	TRANSISTOR	DTC343TK-T-146		
Q803	8-729-920-31	TRANSISTOR	DTC343TK-T-146		
Q804	8-729-920-31	TRANSISTOR	DTC343TK-T-146		
		< RESISTOR >			
R800	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R801	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R802	1-216-809-11	METAL CHIP	100	5%	1/10W
R803	1-216-809-11	METAL CHIP	100	5%	1/10W
R805	1-216-809-11	METAL CHIP	100	5%	1/10W
R807	1-216-809-11	METAL CHIP	100	5%	1/10W
**********					
	A-4751-753-A	IO BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C101	1-162-967-11	CERAMIC CHIP	0.0033uF	10%	50V
C102	1-162-967-11	CERAMIC CHIP	0.0033uF	10%	50V
C103	1-126-934-11	ELECT	220uF	20%	16V
C105	1-115-156-11	CERAMIC CHIP	1uF		10V
C106	1-115-156-11	CERAMIC CHIP	1uF		10V
C107	1-104-662-91	ELECT	22uF	20%	25V
C108	1-104-662-91	ELECT	22uF	20%	25V
C109	1-104-509-11	CERAMIC CHIP	0.018uF	10%	16V
C110	1-104-509-11	CERAMIC CHIP	0.018uF	10%	16V
C111	1-104-662-91	ELECT	22uF	20%	25V
C112	1-104-662-91	ELECT	22uF	20%	25V
C212	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C216	1-126-964-11	ELECT	10uF	20%	50V
C217	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C218	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C221	1-115-156-11	CERAMIC CHIP	1uF		10V
C222	1-115-156-11	CERAMIC CHIP	1uF		10V
C223	1-115-156-11	CERAMIC CHIP	1uF		10V
C224	1-126-933-11	ELECT	100uF	20%	16V
C225	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C227	1-104-662-91	ELECT	22uF	20%	25V
C229	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C234	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C235	1-126-916-11	ELECT	1000uF	20%	6.3V
C238	1-126-916-11	ELECT	1000uF	20%	6.3V
C239	1-126-916-11	ELECT	1000uF	20%	6.3V
C240	1-126-916-11	ELECT	1000uF	20%	6.3V
C241	1-126-916-11	ELECT	1000uF	20%	6.3V
C278	1-126-964-11	ELECT	10uF	20%	50V
C603	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C604	1-126-933-11	ELECT	100uF	20%	16V
C605	1-104-662-91	ELECT	22uF	20%	25V
C606	1-104-662-91	ELECT	22uF	20%	25V
C607	1-104-662-91	ELECT	22uF	20%	25V
C608	1-104-662-91	ELECT	22uF	20%	25V
C609	1-162-960-11	CERAMIC CHIP	220PF	10%	50V
C610	1-162-960-11	CERAMIC CHIP	220PF	10%	50V
C611	1-162-960-11	CERAMIC CHIP	220PF	10%	50V
C612	1-162-960-11	CERAMIC CHIP	220PF	10%	50V
C624	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C625	1-104-662-91	ELECT	22uF	20%	25V
C626	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C627	1-104-662-91	ELECT	22uF	20%	25V
C628	1-162-960-11	CERAMIC CHIP	220PF	10%	50V
C629	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C631	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C632	1-126-933-11	ELECT	100uF	20%	16V
C633	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C634	1-104-662-91	ELECT	22uF	20%	25V
C635	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C636	1-162-960-11	CERAMIC CHIP	220PF	10%	50V
C637	1-104-662-91	ELECT	22uF	20%	25V
C638	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C639	1-126-933-11	ELECT	100uF	20%	16V
C645	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C646	1-162-960-11	CERAMIC CHIP	220PF	10%	50V
		< CONNECTOR >			
CN102	1-816-955-11	CONNECTOR, FFC/FPC 11P			
CN201	1-784-213-11	CONNECTOR, FFC (LIF (NON-ZIF)) 15P			
CN601	1-779-297-11	CONNECTOR, FFC (LIF (NON-ZIF)) 29P			
		< IC >			
IC201	6-705-602-01	IC MM1623BFBE			
IC602	8-759-385-76	IC MC14052 BDR2			
IC603	6-600-014-01	IC TORX141L (OPTICAL DIGITAL IN)			
IC605	6-706-078-01	IC M62429FP-TP			
IC606	6-705-720-01	IC RC4580IDR			
		< JACK >			
J201	1-817-449-11	JACK, PIN 3P (COMPONENT VIDEO OUT)			
J202	1-694-920-11	TERMINAL BOARD (S TERMINAL+1P) (MONITOR OUT)			
J601	1-816-918-11	JACK, PIN 4P (VIDEO/SAT)			
J602	1-774-785-11	JACK, PIN 1P (SURROUND BACK)			
		< COIL >			
L101	1-469-525-91	INDUCTOR	10uH		
L209	1-469-525-91	INDUCTOR	10uH		
L214	1-216-864-11	SHORT CHIP	0		
L601	1-469-525-91	INDUCTOR	10uH		
L602	1-469-525-91	INDUCTOR	10uH		
		< TRANSISTOR >			
Q101	8-729-120-28	TRANSISTOR	2SC2412K-T-146-QR		
Q102	8-729-120-28	TRANSISTOR	2SC2412K-T-146-QR		
Q604	8-729-901-00	TRANSISTOR	DTC124EKA-T146		
Q605	8-729-901-00	TRANSISTOR	DTC124EKA-T146		
Q606	8-729-920-31	TRANSISTOR	DTC343TK-T-146		
Q607	8-729-920-31	TRANSISTOR	DTC343TK-T-146		
		< RESISTOR >			
R101	1-216-864-11	SHORT CHIP	0		
R103	1-216-864-11	SHORT CHIP	0		
R106	1-216-821-11	METAL CHIP	1K	5%	1/10W
R107	1-216-853-11	METAL CHIP	470K	5%	1/10W
R108	1-216-853-11	METAL CHIP	470K	5%	1/10W

IO | LF | MODE MOTOR | PW KEY | RELAY

Ref. No.	Part No.	Description			Remark
R109	1-216-821-11	METAL CHIP	1K	5%	1/10W
R110	1-216-813-11	METAL CHIP	220	5%	1/10W
R111	1-216-813-11	METAL CHIP	220	5%	1/10W
R112	1-218-867-11	METAL CHIP	6.8K	5%	1/10W
R113	1-218-867-11	METAL CHIP	6.8K	5%	1/10W
R114	1-216-839-11	METAL CHIP	33K	5%	1/10W
R115	1-216-839-11	METAL CHIP	33K	5%	1/10W
R116	1-216-839-11	METAL CHIP	33K	5%	1/10W
R117	1-216-839-11	METAL CHIP	33K	5%	1/10W
R118	1-216-839-11	METAL CHIP	33K	5%	1/10W
R119	1-216-839-11	METAL CHIP	33K	5%	1/10W
R128	1-216-864-11	SHORT CHIP	0		
R203	1-216-821-11	METAL CHIP	1K	5%	1/10W
R204	1-216-821-11	METAL CHIP	1K	5%	1/10W
R224	1-216-833-11	METAL CHIP	10K	5%	1/10W
R225	1-218-285-11	METAL CHIP	75	5%	1/10W
R226	1-218-285-11	METAL CHIP	75	5%	1/10W
R227	1-218-285-11	METAL CHIP	75	5%	1/10W
R228	1-218-285-11	METAL CHIP	75	5%	1/10W
R229	1-218-285-11	METAL CHIP	75	5%	1/10W
R230	1-218-285-11	METAL CHIP	75	5%	1/10W
R234	1-216-833-11	METAL CHIP	10K	5%	1/10W
R601	1-216-833-11	METAL CHIP	10K	5%	1/10W
R602	1-216-833-11	METAL CHIP	10K	5%	1/10W
R603	1-216-809-11	METAL CHIP	100	5%	1/10W
R604	1-216-809-11	METAL CHIP	100	5%	1/10W
R605	1-216-809-11	METAL CHIP	100	5%	1/10W
R607	1-216-821-11	METAL CHIP	1K	5%	1/10W
R608	1-216-821-11	METAL CHIP	1K	5%	1/10W
R609	1-216-833-11	METAL CHIP	10K	5%	1/10W
R610	1-216-833-11	METAL CHIP	10K	5%	1/10W
R621	1-216-833-11	METAL CHIP	10K	5%	1/10W
R622	1-216-833-11	METAL CHIP	10K	5%	1/10W
R623	1-216-833-11	METAL CHIP	10K	5%	1/10W
R624	1-216-833-11	METAL CHIP	10K	5%	1/10W
R625	1-216-833-11	METAL CHIP	10K	5%	1/10W
R626	1-216-833-11	METAL CHIP	10K	5%	1/10W
R627	1-216-833-11	METAL CHIP	10K	5%	1/10W
R628	1-216-833-11	METAL CHIP	10K	5%	1/10W
R629	1-216-841-11	METAL CHIP	47K	5%	1/10W
R630	1-216-841-11	METAL CHIP	47K	5%	1/10W
R631	1-216-841-11	METAL CHIP	47K	5%	1/10W
R632	1-216-841-11	METAL CHIP	47K	5%	1/10W
R633	1-216-823-11	METAL CHIP	1.5K	5%	1/10W
R634	1-216-823-11	METAL CHIP	1.5K	5%	1/10W
R635	1-218-867-11	METAL CHIP	6.8K	5%	1/10W
R636	1-218-867-11	METAL CHIP	6.8K	5%	1/10W
R645	1-216-809-11	METAL CHIP	100	5%	1/10W
R647	1-216-833-11	METAL CHIP	10K	5%	1/10W
R648	1-216-833-11	METAL CHIP	10K	5%	1/10W
R649	1-216-839-11	METAL CHIP	33K	5%	1/10W
R650	1-216-821-11	METAL CHIP	1K	5%	1/10W
R651	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R652	1-216-833-11	METAL CHIP	10K	5%	1/10W
R653	1-216-833-11	METAL CHIP	10K	5%	1/10W
R654	1-216-813-11	METAL CHIP	220	5%	1/10W
R655	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R656	1-216-841-11	METAL CHIP	47K	5%	1/10W

☆ The Part numbers of Ref.No. S800 is changed with a suffix of the PW KEY board. Please refer to SUPPLEMENT-3 of this manual at the time of replacement.

Ref. No.	Part No.	Description			Remark
R657	1-216-833-11	METAL CHIP	10K	5%	1/10W
R659	1-216-821-11	METAL CHIP	1K	5%	1/10W
R661	1-216-813-11	METAL CHIP	220	5%	1/10W
R664	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
		LF BOARD			
		********			
		< CAPACITOR >			
⚠C903	1-117-916-51	FILM	0.22uF	10%	275V
		< CONNECTOR >			
CN900	1-564-321-00	PIN, CONNECTOR (3.96mm PITCH) 2P			
* CN901	1-564-321-21	PIN, CONNECTOR (3.96mm PITCH) 2P			
		< LINE FILTER >			
⚠LF901	1-456-081-21	COIL, LINE FILTER			
		MODE MOTOR BOARD			
		******************			
		PW KEY BOARD			
		************			
		< CAPACITOR >			
C811	1-164-360-11	CERAMIC CHIP	0.1uF		16V
		< CONNECTOR >			
* CN805	1-568-941-11	PIN, CONNECTOR 3P			
		< DIODE >			
D802	6-500-817-01	DIODE (LED) SML-512UWT86 (I/⏻)			
		< RESISTOR >			
R809	1-216-864-11	SHORT CHIP	0		
		< SWITCH >			
☆ S800	1-771-884-31	SWITCH, TACTILE (I/⏻)			
	A-4728-700-A	RELAY BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C711	1-126-795-11	ELECT	10uF	20%	50V
C751	1-164-159-21	CERAMIC	0.1uF		50V
C752	1-164-159-21	CERAMIC	0.1uF		50V
C753	1-164-159-21	CERAMIC	0.1uF		50V
C754	1-164-159-21	CERAMIC	0.1uF		50V

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

RELAY RF

Ref. No.	Part No.	Description			Remark
C755	1-164-159-21	CERAMIC	0.1uF		50V
C756	1-164-159-21	CERAMIC	0.1uF		50V
C758	1-164-159-21	CERAMIC	0.1uF		50V
C761	1-162-306-11	CERAMIC	0.01uF	30%	16V
C762	1-164-159-21	CERAMIC	0.1uF		50V
C763	1-164-159-21	CERAMIC	0.1uF		50V
C764	1-164-159-21	CERAMIC	0.1uF		50V
C765	1-164-159-21	CERAMIC	0.1uF		50V
C766	1-164-159-21	CERAMIC	0.1uF		50V
C767	1-164-159-21	CERAMIC	0.1uF		50V
C768	1-164-159-21	CERAMIC	0.1uF		50V
C769	1-164-159-21	CERAMIC	0.1uF		50V
C771	1-162-306-11	CERAMIC	0.01uF	30%	16V
C781	1-162-306-11	CERAMIC	0.01uF	30%	16V
		< CONNECTOR >			
CN701	1-779-565-21	CONNECTOR, FFC (LIF (NON-ZIF)) 28P			
CN702	1-785-329-11	PIN, CONNECTOR (LIGHT ANGLE) 3P			
CN703	1-785-328-11	PIN, CONNECTOR (LIGHT ANGLE) 2P			
CN704	1-785-328-21	PIN, CONNECTOR (LIGHT ANGLE) 2P			
CN710	1-568-945-11	PIN, CONNECTOR 7P			
		< DIODE >			
D701	8-719-921-40	DIODE MTZJ-T-77-4.7B			
D711	8-719-921-42	DIODE MTZJ-T-77-5.1A			
D721	8-719-982-03	DIODE MTZJ-T-77-3.6A			
		< IC >			
IC701	8-759-598-69	IC BA6956AN			
IC711	8-759-598-69	IC BA6956AN			
IC721	8-759-598-69	IC BA6956AN			
		< TRANSISTOR >			
Q731	8-729-029-66	TRANSISTOR RT1N141S-TP			
		< RESISTOR >			
R701	1-249-415-11	CARBON	680	5%	1/4W
R702	1-247-807-31	CARBON	100	5%	1/4W
R711	1-249-415-11	CARBON	680	5%	1/4W
R712	1-247-807-31	CARBON	100	5%	1/4W
R721	1-249-415-11	CARBON	680	5%	1/4W
R722	1-247-807-31	CARBON	100	5%	1/4W
R731	1-249-407-11	CARBON	150	5%	1/4W
R732	1-249-417-11	CARBON	1K	5%	1/4W
R733	1-249-429-11	CARBON	10K	5%	1/4W
R734	1-249-431-11	CARBON	15K	5%	1/4W

****

	A-4728-690-A	RF BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C001	1-126-206-11	ELECT CHIP	100uF	20%	6.3V
C002	1-124-779-00	ELECT CHIP	10uF	20%	16V
C003	1-126-206-11	ELECT CHIP	100uF	20%	6.3V
C004	1-124-779-00	ELECT CHIP	10uF	20%	16V
C005	1-128-993-21	ELECT CHIP	22uF	20%	10V
C006	1-128-993-21	ELECT CHIP	22uF	20%	10V
C008	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V

Ref. No.	Part No.	Description			Remark
C009	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C010	1-115-416-11	CERAMIC CHIP	0.001uF	5%	25V
C011	1-115-416-11	CERAMIC CHIP	0.001uF	5%	25V
C012	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C013	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C014	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C015	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C016	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C017	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C018	1-164-172-11	CERAMIC CHIP	0.0056uF	10%	25V
C019	1-164-172-11	CERAMIC CHIP	0.0056uF	10%	25V
C020	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C021	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C022	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C023	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C024	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C025	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C026	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C027	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C028	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C029	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C030	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C031	1-115-416-11	CERAMIC CHIP	0.001uF	5%	25V
C032	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C033	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C034	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C035	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C036	1-125-891-11	CERAMIC CHIP	0.47uF	10%	10V
C037	1-162-959-11	CERAMIC CHIP	330PF	5%	50V
C038	1-164-677-11	CERAMIC CHIP	0.033uF	10%	16V
C039	1-164-677-11	CERAMIC CHIP	0.033uF	10%	16V
C040	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C041	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C042	1-164-218-11	CERAMIC CHIP	180PF	0.25PF	50V
C049	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C050	1-162-967-11	CERAMIC CHIP	0.0033uF	10%	50V
C051	1-125-891-11	CERAMIC CHIP	0.47uF	10%	10V
C052	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
		< CONNECTOR >			
CN001	1-815-031-11	CONNECTOR, FFC/FPC (ZIF) 24P			
CN002	1-784-836-21	CONNECTOR, FFC (LIF (NON-ZIF)) 29P			
CN003	1-784-861-21	CONNECTOR, FFC (LIF (NON-ZIF)) 9P			
		< DIODE >			
D001	8-719-988-61	DIODE 1SS355TE-17			
D002	8-719-988-61	DIODE 1SS355TE-17			
		< IC >			
IC001	6-703-922-01	IC SP3723CAF0PM			
IC003	6-703-921-01	IC TL343IDBVR			
		< COIL >			
L001	1-412-031-11	INDUCTOR CHIP	47uH		
L002	1-412-031-11	INDUCTOR CHIP	47uH		

RF **ROLLER MOTOR** **SENSOR** **SONY LAMP** **SPK**

Ref. No.	Part No.	Description			Remark
		< TRANSISTOR >			
Q001	8-729-903-46	TRANSISTOR	2SB1132-T100-QR		
Q002	8-729-903-46	TRANSISTOR	2SB1132-T100-QR		
		< RESISTOR >			
R001	1-218-668-11	METAL CHIP	100	0.5%	1/16W
R003	1-216-803-11	METAL CHIP	33	5%	1/10W
R004	1-216-803-11	METAL CHIP	33	5%	1/10W
R005	1-216-841-11	METAL CHIP	47K	5%	1/10W
R006	1-216-817-11	METAL CHIP	470	5%	1/10W
R007	1-216-803-11	METAL CHIP	33	5%	1/10W
R008	1-216-803-11	METAL CHIP	33	5%	1/10W
R009	1-216-841-11	METAL CHIP	47K	5%	1/10W
R010	1-216-817-11	METAL CHIP	470	5%	1/10W
R011	1-216-864-11	METAL CHIP	0	5%	1/10W
R012	1-216-864-11	METAL CHIP	0	5%	1/10W
R013	1-216-864-11	METAL CHIP	0	5%	1/10W
R014	1-216-864-11	METAL CHIP	0	5%	1/10W
R015	1-216-864-11	METAL CHIP	0	5%	1/10W
R016	1-216-864-11	METAL CHIP	0	5%	1/10W
R017	1-216-864-11	METAL CHIP	0	5%	1/10W
R018	1-216-864-11	METAL CHIP	0	5%	1/10W
R019	1-216-864-11	METAL CHIP	0	5%	1/10W
R020	1-216-864-11	METAL CHIP	0	5%	1/10W
R021	1-216-864-11	METAL CHIP	0	5%	1/10W
R022	1-216-813-11	METAL CHIP	220	5%	1/10W
R023	1-216-820-11	METAL CHIP	820	5%	1/10W
R024	1-216-864-11	METAL CHIP	0	5%	1/10W
R025	1-216-809-11	METAL CHIP	100	5%	1/10W
R026	1-218-718-11	METAL CHIP	12K	0.5%	1/16W
R027	1-216-864-11	METAL CHIP	0	5%	1/10W
R028	1-216-864-11	METAL CHIP	0	5%	1/10W
R029	1-216-864-11	METAL CHIP	0	5%	1/10W
R031	1-216-809-11	METAL CHIP	100	5%	1/10W
R033	1-216-845-11	METAL CHIP	100K	5%	1/10W
R034	1-216-817-11	RES-CHIP	470	5%	1/10W
R035	1-216-864-11	METAL CHIP	0	5%	1/10W
R041	1-216-821-11	METAL CHIP	1K	5%	1/10W
R046	1-216-833-11	METAL CHIP	10K	5%	1/10W
R047	1-216-839-11	METAL CHIP	33K	5%	1/10W
R091	1-218-913-11	METAL CHIP	560K	0.5%	1/10W
**********					
		ROLLER MOTOR BOARD			
		**********			
**********					
	1-685-004-11	SENSOR BOARD			
		**********			
		< PHOTO SENSOR >			
IC751	8-749-017-45	SENSOR, PHOTO RPR-220C1N (DISC INSERT DETECT SENSOR)			
**********					

Ref. No.	Part No.	Description			Remark
		SONY LAMP BOARD			
		**********			
		< CAPACITOR >			
C877	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C878	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
		< CONNECTOR >			
CN804	1-506-481-11	PIN, CONNECTOR 2P			
		< DIODE >			
D823	6-500-929-01	DIODE SML-512WBCW1AR (SONY)			
D824	6-500-929-01	DIODE SML-512WBCW1AR (SONY)			
		< RESISTOR >			
R854	1-216-809-11	METAL CHIP	100	5%	1/10W
R855	1-216-809-11	METAL CHIP	100	5%	1/10W
**********					
		SPK BOARD			
		**********			
		< CAPACITOR >			
C340	1-162-294-31	CERAMIC	0.001uF	10%	50V
C341	1-162-294-31	CERAMIC	0.001uF	10%	50V
C342	1-162-294-31	CERAMIC	0.001uF	10%	50V
C343	1-162-294-31	CERAMIC	0.001uF	10%	50V
C481	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C482	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C483	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C485	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C486	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C484	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C487	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C488	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C491	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C492	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C493	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C494	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C495	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C496	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
		< CONNECTOR >			
* CN309	1-564-243-11	PIN, CONNECTOR (3.96mm PITCH) 6P			
CN311	1-691-766-11	PLUG (MICRO CONNECTOR) 4P			
CN312	1-691-766-21	PLUG (MICRO CONNECTOR) 4P			
		< GROUND TERMINAL >			
GP307	1-537-770-21	TERMINAL BOARD, GROUND			
		< TERMINAL >			
TB301	1-780-122-11	TERMINAL BOARD (SPEAKER)			
TB302	1-780-121-11	TERMINAL BOARD (SPEAKER)			
**********					

STOCKER MOTOR | SW (1) | SW (2) | SW (3) | SW (4)

Ref. No.	Part No.	Description	Remark
	1-685-006-11	STOCKER MOTOR BOARD	
		**********	
**********			
	1-685-008-11	SW (1) BOARD	
		**********	
		< SWITCH >	
S711	1-786-382-11	SWITCH, PUSH (1 KEY)(DISC INSERT (8/12cm))	
**********			
	1-685-009-11	SW (2) BOARD	
		**********	
		< SWITCH >	
S713	1-786-382-11	SWITCH, PUSH (1 KEY)(DISC IN (8/12cm))	
S714	1-786-382-11	SWITCH, PUSH (1 KEY)(DISC IN (8cm))	
**********			
	1-685-010-11	SW (3) BOARD	
		**********	
		< SWITCH >	
S715	1-786-382-11	SWITCH, PUSH (1 KEY)(DISC OUT)	
**********			
	1-685-011-11	SW (4) BOARD	
		**********	
		< SWITCH >	
S716	1-786-382-11	SWITCH, PUSH (1 KEY)(STOCKER IN/OUT)	
S717	1-786-382-11	SWITCH, PUSH (1 KEY)(DISC POSITION)	
S718	1-786-382-11	SWITCH, PUSH (1 KEY)(STOCKING)	
**********			
		MISCELLANEOUS	
		**********	
4	1-763-861-12	FAN, DC	
⚠6	1-783-531-72	CORD, POWER	
8	1-828-962-11	WIRE (FLAT TYPE)(11 CORE)	
62	1-829-320-11	FLEXIBLE FLAT CABLE (13 CORE)	
63	1-829-321-11	FLEXIBLE FLAT CABLE (17 CORE)	
106	1-829-322-11	FLEXIBLE FLAT CABLE (9 CORE)	
107	1-829-319-11	FLEXIBLE FLAT CABLE (17 CORE)	
108	1-828-349-11	WIRE (FLAT TYPE)(17 CORE)	
109	1-829-323-11	FLEXIBLE FLAT CABLE (29 CORE)	
110	1-829-326-11	FLEXIBLE FLAT CABLE (15 CORE)	
111	1-829-325-11	FLEXIBLE FLAT CABLE (29 CORE)	
112	1-829-324-11	FLEXIBLE FLAT CABLE (28 CORE)	
113	1-500-657-11	CORE, FERRIET	
⚠114	1-468-838-11	REGULATOR, SWITCHING	
⚠603	1-477-263-11	OPTICAL PICK-UP (DBU-1)	
605	1-685-250-11	FLEXIBLE BOARD	
M761	A-4735-953-A	MOTOR (STOCKER) ASSY (MODE)	
M771	A-4735-953-A	MOTOR (STOCKER) ASSY (ROLLER)	
M781	A-4735-953-A	MOTOR (STOCKER) ASSY (STOCKER)	
S702	1-477-299-11	ENCODER, ROTARY (STOCKER POSITION)	
S771	1-477-300-11	ENCODER, ROTARY (MODE)	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

HCD-FR1/FR8/FR9

SONY

US Model
HCD-FR1/FR8/FR9
Canadian Model
HCD-FR1

SERVICE MANUAL

Ver 1.1 2004.07

SUPPLEMENT-1

Subject: TEST MODE and ELECTRICAL ADJUSTMENT

9-879-011-81

SECTION 1
TEST MODE

[Version Display Mode]

* The software version is displayed.

Procedure:

1. Press three buttons of VOLUME-, VOLUME+ and ⏏ simultaneously for two seconds.
2. The message “VERSION” is displayed. The version display mode is activated.
3. Press the ▶▶I button. “IF ***” is displayed.
4. Each time the ▶▶I button is pressed, the display changes in the order of DVD, AREA, VERSION and IF.
5. To exit from this mode, press the I/⏻ button.

[Key Test Mode]

* Button check

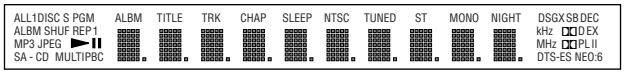
Procedure:

1. Press three buttons of VOLUME-, VOLUME+ and FUNCTION simultaneously.
2. The message “KEY NUM 0” is displayed and “0” blinks.
3. Each time a button is pressed, “KEY NUM 0” value increases. However, once a button is pressed, it is no longer taken into account.
4. When all buttons are pressed, “KEY NUM 9” appears and the number blinking is stopped.
5. To exit from this mode, disconnect the power cord.

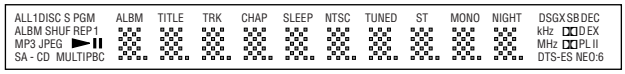
[Display Test Mode]

Procedure:

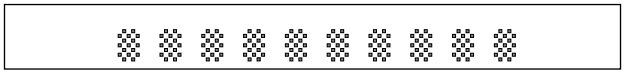
1. Press three buttons of VOLUME-, I◀◀ and ⏏ simultaneously.
2. All segments are turned on.



3. When the ▶▶I button is pressed, the display will light up as follows.



4. Press the ▶▶I button and confirm the display.



5. Press the ▶▶I button, all segments are turned off.
6. Every pressing of the ▶▶I button turns on each segments in the same order.
7. To exit from this mode, press the I/⏻ button.

[Cold Reset]

* The cold reset clears all data including preset data stored in the RAM to initial conditions. Execute this mode when returning the set to the customers.

Procedure:

1. Press the I/⏻ button to turn the power on.
2. Press three buttons of I◀◀, ▷II and ⏏ simultaneously.
3. When this button is operated, display as “COLD RESET” for a while and all of the settings are reset.

[Disc Slot Lock]

The disc slot lock function for the antitheft of an demonstration disc in the store is equipped.

Setting Procedure:

1. Turn the set on.
2. Press two buttons of ■ and ⏏ simultaneously for five seconds.
3. The message “LOCKED” is displayed and the slot is locked.

Releasing Procedure:

1. Press two buttons of ■ and ⏏ simultaneously for five seconds again.
2. The message “UNLOCKED” is displayed and the slot is unlocked.

Note : When “LOCKED” is displayed, the slot lock is not released by turning power on/off with the I/⏻ button.

[Repeat Limit Release Mode]

Procedure:

1. Press three buttons of ⏏, ▶▶I and VOLUME+ simultaneously.
2. Repeat limit is released.

[CDM Ship Mode]

* This mode moves the optical pick-up to the position durable to vibration. Use this mode when returning the set to the customer after repair.

Procedure:

1. Turn the set on.
2. Set the function to DVD.
3. Press three buttons of ▶▶I, I◀◀ and ⏏ simultaneously.
4. The message “MECHA LOCK” is displayed.
5. The CDM ship mode is set.

[GENERAL DESCRIPTION]

The Test Mode allows you to make diagnosis and adjustment easily using the remote commander and monitor TV. The instructions, diagnostic results, etc. are given on the on-screen display (OSD).

[TEST DISC LIST]

Use the following test disc on test mode.

TDV-520CSO (DVD-SL) : PART No. J-2501-236-A
LUV-P01 (CD) : PART No. 4-999-032-01
TDV-540C (DVD-DL) : PART No. J-2501-235-A

Note: Do not use exiting test disc for DVD.

[STARTING TEST MODE]

1. Press the [I/⏻] button to turn the power on, and set the function to DVD.
2. Press three buttons of [⏏] , [■] and [VOLUME+] simultaneously to enter the test mode.
3. It displays "SERVICE IN" on the fluorescent indicator tube, and displays the Test Mode Menu on the monitor screen as follows. (At the bottom of the menu screen, the model name and revision number are displayed)

```
          Test Mode Menu

0. Syscon Diagnosis
1. Drive Auto Adjustment
2. Drive Manual Operation
3. Mecha Aging
4. Emergency History
5. Mecha Error History
6. Version Information
7. Video Level Adjustment
                    Exit: POWER Key
Model    :DAV-xxx     xx
Revision :x.xx
```

4. To execute each function, select the desired menu and press its number on the remote commander (RM-SP350).
5. To release from test mode, press the [I/⏻] button and turn the power off.

[OPERATING TEST MODE]

0. SYSCON DIAGNOSIS

The same contents as board detail check by serial interface can be checked from the remote commander operation.
On the Test Mode Menu screen, press [0] key on the remote commander, and the following Check Menu will be displayed.

```
     ### Syscon Diagnosis ###

           Check Menu
0. Quit
1. All
2. Version
3. EEPROM
4. GPIO
5. SD Bus
6. Video
```

0-0. Quit

Quit the Syscon Diagnosis and return to the Test Mode Menu.

0-1. All (All items continuous check)

This menu checks all diagnostic items continuously. Normally, all items are checked successively one after another automatically unless an error is found, but at a certain item that requires judgment through a visual check to the result, the following screen is displayed for the key entry.

• *Example display*

```
     ### Syscon Diagnosis ###

          Diag All Check
           No.2 Version

           2-2. Version
ROM Revision = x.xx




Press NEXT Key to Continue
Press PREV Key to Repeat
```

For the ROM Check, the check sum calculated by the Syscon is output, and therefore you must compare it with the specified value for confirmation.
Following the message, press the [▶▶I] button to go to the next item, or press the [I◀◀] button to repeat the same operation again.
To quit the diagnosis and return to Check Menu screen, press the [RETURN] key on the remote commander to display Check Menu.

• Error occurred

If an error occurred, the diagnosis is suspended and error is displayed. Press the [RETURN] key on the remote commander to quit the diagnosis, or press the [I◀◀] button to repeat the same check where an error occurred, or press the [▶▶I] button to continue the check from the item next to faulty item.

General Description of Checking Method

Selecting 2 and subsequent items calls the submenu screen of each item. And selecting 2 and subsequent items executes respective menus and outputs the results.
For the contents of each submenu, see "Check Items List" as below.

Check Items List:

0-2. Version
  0-2-1. All
  0-2-2. Revision
  0-2-3. ROM Check Sum
  0-2-4. Model Type
  0-2-5. Region
0-3. EEPROM Check
  0-3-1. Sampling Check
  0-3-2. Detail Check
0-4. GP I/O Check
0-5. SD Bus Check
0-6. Video Check

0-2. Version

0-2-2. Revision
The revision number of ROM (IC205) that the program for the DVD system processor (IC206) is stored.

0-2-3. ROM Check Sum
Check sum is calculated. (4 digits hexadecimal number)

0-2-4. Model Type
Model name is displayed. (DAV-SR4W)

0-2-5. Region
Model destination code is displayed. (2 digits number)

0-3. EEPROM Check

0-3-1. Sampling Check
EEPROM check at every 64 words.
It compares read data with write data of each address. When there are discrepancies between two data, it displays error.

0-3-2. Detail Check
EEPROM check at every 1 word.
It compares read data with write data of each address. When there are discrepancies between two data, it displays error.

0-4. GP I/O Check

Pull up/down setting check of the DVD system processor (IC206) pin 150, 151 and 154 (for clock setting port).

0-5. SD Bus Check

SD bus data check between DVD decoder (IC701) and D-RAM (IC706).

0-6. Video Check

Output the color bars for video level adjustment.

1. DRIVE AUTO ADJUSTMENT

On the Test Mode Menu screen, press the [1] key on the remote commander, and the Adjustment Menu will be displayed.

```
    ## Drive Auto Adjustment ##
          Adjustment Menu

  0. ALL
  1. DVD-SL
  2. CD
  3. DVD-DL




                        Exit: RETURN
```

Normally, [0] is selected to adjust DVD (single layer), CD and DVD (dual layer) in this order. But, individual items can be adjusted for the case where adjustment is suspended due to an error. In this mode, the adjustment can be made easily through the operation following the message displayed on the screen.
The disc used for adjustment must be the one specified for adjustment.

1-0. ALL

Press the [0] key on the remote commander, and the servo set data in EEPROM will be initialized. Then, 1. DVD-SL disc, 2. CD disc and 3. DVD-DL disc are adjusted in this order.
Each time one disc was adjusted, it is ejected. Replace it with the specified disc following the message. You can finish the adjustment by pressing the [RETURN] button on the remote commander.

Note: During adjustment of each disc, the measurement for disc type judgment is made. As automatic adjustment does not judge the disc type unlike conventional models, take care not to insert wrong type discs. Also, do not give a shock during adjustment.

1-1. DVD-SL (single layer)

Press the [1] key on the remote commander and insert a DVD single layer disc following the message. Then the adjustment will be made through the steps below, then adjusted values will be written to the EEPROM.

DVD Single Layer Disc Adjustment Steps:

1. Sled tilt reset
2. Disc check memory SL
3. Wait 300 msec
4. Set disc type SL
5. LD on
6. Spindle start
7. Wait 1 sec
8. Focus servo on 0
9. Auto track offset adjust
10. CLVA on
11. Wait 500 msec
12. Tracking on
13. Wait 1 sec
14. Sled on
15. Check CLV on
16. Auto LFO adjust
17. Auto focus offset adjust
18. Auto tilt position adjust
19. Auto focus gain adjust
20. Auto focus offset adjust
21. EQ boost adjust
22. Auto loop filter offset adjust
23. Auto track gain adjust

Search Check

24. 32 track jump forward
25. 32 track jump reverse
26. 500 track jump forward
27. 500 track jump reverse

28.All servo stop
29.EEP copy loop filter offset

1-2. CD

Press the [2] key on the remote commander and insert a CD disc following the message. Then the adjustment will be made through the steps below, then adjusted values will be written to the EEPROM.

CD Adjustment Steps

1. Sled tilt rest
2. Disc check memory CD
3. Wait 500 msec
4. Set disc type CD
5. LD on
6. Spindle start
7. Wait 500 msec
8. Focus servo on 0
9. Auto track offset adjust
10. CLVA on
11. Wait 500 msec
12. Tracking on
13. (TC display start)
14. Wait 1 sec
15. Jitter display start
16. Sled ON
17. Check CLV on
18. Auto loop filter offset adjust
19. Auto focus offset adjust
20. Auto focus gain adjust
21. Auto focus offset adjust
22. EQ boost adjust
23. Auto LFO Adjust

24. Auto track gain adjust

Search Check

25. 32Tj forward
26. 32Tj reverse
27. 500Tj forward
28. 500Tj reverse

29. All servo stop

1-3. DVD-DL (dual layer)

Press the [3] key on the remote commander and insert a DVD dual layer disc following the message. Then the adjustment will be made through the steps below, then adjusted values will be written to the EEPROM.

DVD Dual Layer Disc Adjustment Steps:

1. Sled tilt reset
2. Disc check memory DL
3. Wait 500 msec
4. Set disc type DL
5. LD on
6. Spindle start
7. Wait 1 sec

Layer 1 Adjust

8. Focus servo on 0
9. Auto track offset adjust
10. CLVA on
11. Wait 500 msec
12. Tracking on
13. Wait 500 msec
14. Sled on
15. Check CLV lock
16. Auto loop filter offset adjust, Auto focus adjust
17. Auto focus gain adjust
18. Auto focus offset adjust
19. EQ boost adjust
20. Auto loop filter offset adjust
21. Auto Track Gain Adjust

Search Check

22. 32 track jump forward
23. 32 track jump reverse
24. 500 track jump forward
25. 500 track jump reverse

Layer 0 Adjust

26. Focus jump (L1 → L0)
27. Auto track offset adjust L0
28. CLVA on
29. Wait 500 msec
30. Tracking on
31. Wait 500 msec
32. Sled on
33. Check CLV lock
34. Auto focus filter offset adjust
35. Auto Focus Adjust
36. Auto focus gain adjust
37. Auto focus offset adjust
38. EQ boost adjust
39. Auto Loop Filter Offset
40. Auto track gain adjust

Search Check

41. 32 track jump forward
42. 32 track jump reverse
43. 500 track jump forward
44. 500 track jump reverse

Layer Jump Check

45. Layer jump (L0 ? L1)
46. Layer jump (L1 ? L0)

47. All servo stop

2. DRIVE MANUAL OPERATION

Note: This mode is used for design, and not used in service fundamentally.

On the Test Mode Menu screen, press the [2] key on the remote commander, and the Operation Menu will be displayed. For the manual operation, each servo on/off control and adjustment can be executed manually.

```
   ## Drive Manual Operation ##
         Operation Menu
1. Disc Type
2. Servo Control
3. Track/Layer Jump
4. Non EEPROM Write Adjust
5. EEPROM Write Adjust
6. Memory Check
7. Disc Check Memory
8. Error Rate Display
9. SACD Water Mark

                        Exit: RETURN
```

In using the manual operation menu, take care of the following points. These commands do not provide protection, thus requiring correct operation. The sector address or time code field is displayed when a disc is loaded.

Note:

1. Set correctly the disc type to be used on the Disc Type screen.
2. In case of an alarm, immediately press the [■] button to stop the servo operation, and press the [I/⏻] button to turn the power off.

Basic operation:

(controllable from front panel or remote commander)

[I/⏻]	: Power OFF (release the Test Mode)
[■]	: Servo stop
[⏏]	: Stop and eject
[RETURN]	: Return to Operation Menu or Test Mode Menu
[⏮], [⏭]	: Transition between sub modes of menu
[1] to [9], [0]	: Selection of menu items
Cursor [↓]/[↑]	: Increase/Decrease in manually adjusted value

2-1. Disc Type

```
            Disc Type

         Disc Type Select

  1. Disc Type Auto Check
  2. Set Disc Type DVD
  3. Set Disc Type CD
  4. Set Disc Type Hybrid




                      Exit: RETURN
```

2-1-1. Disc Type Auto Check

1) Press the [1] key on the remote commander to display the Disc Type Auto Check screen.
2) Insert a disc and press the [ENTER] key on the remote commander.
3) It judges the type of inserted disc automatically and displays the disc type and so on as below.

```
        Disc Type Auto Check

  Disc Type      xx
  Layer          xx
  Mirr Time      xx
  Mirr Count     xx
  FZC Count      xx
  PI Reference   xx
  PI Peak        xx

  ENTER.Execute

                      Exit: RETURN
```

Disc Type : CD, DVD or Hybrid (SACD)
Layer : SINGLE, DUAL or HYBRID
Mirr Time : Mirror time of between disc surface and record surface when disc type judgment. (hexadecimal number)
Mirr Count : The number of times which mirror counts between disc surface and record surface when disc type judging. (hexadecimal number)
FZC Count : The number of times which focus zero cross points of each layer when lens down. (hexadecimal number)
PI Reference : The average of PI reference voltage. (hexadecimal number)
PI Peak : PI peak level voltage. It performs only when disc type judgment is successful. (hexadecimal number)

2-1-2. Disc Type DVD

It sets up so that it may judge as a disc type of specification of the disc with which the set was inserted.

[1]: DVD single layer disc (12 cm)
[2]: DVD dual layer disc (0 layer, 12 cm)
[3]: DVD dual layer disc (1 layer, 12 cm)
[4]: DVD-RW disc (12 cm)
[5]: DVD single layer disc (8 cm)
[6]: DVD dual layer disc (0 layer, 8 cm)
[7]: DVD dual layer disc (1 layer, 8 cm)

2-1-3. Disc Type CD

It sets up so that it may judge as a disc type of specification of the disc with which the set was inserted.

[1]: CD disc (normal speed, 12 cm)
[2]: CD disc (double speed, 12 cm)
[3]: CD disc (normal speed, 8 cm)
[4]: CD disc (double speed, 8 cm)
[5]: CD-RW disc (normal speed, 12 cm)
[6]: CD-RW disc (double speed, 12 cm)
[7]: CD-RW disc (normal speed, 8 cm)
[8]: CD-RW disc (double speed, 8 cm)

2-1-4. Disc Type Hybrid

It sets up so that it may judge as a disc type of specification of the disc with which the set was inserted.

[1]: SACD Hybrid disc (SACD layer, 12 cm)
[2]: SACD Hybrid disc (CD layer, normal speed, 12 cm)
[3]: SACD Hybrid disc (CD layer, double speed, 12 cm)
[4]: SACD Hybrid disc (SACD layer, 8 cm)
[5]: SACD Hybrid disc (CD layer, normal speed, 8 cm)
[6]: SACD Hybrid disc (CD layer, double speed, 8 cm)

2-2. Servo Control

Note: Be sure to perform the disc type setup before performing this item.

```
            Servo Control
  1.LD          off R.Sled FWD
  2.Focus       off L.Sled REV
  3.SPDL        off U.Sled Reset
  4.CLVA        off D.Sled Limit
  5.Trk.        off
  6.Sled        off
  7.Fcs.Srch    off


  0.All Servo Off

                        Exit: RETURN
```

On this screen, the servo on/off control necessary for replay is executed. Normally, turn on each servo from 1 sequentially and when CLVA is turned on, the usual trace mode becomes active. In the trace mode, DVD sector address or CD time code is displayed. This is not displayed where the spindle is not locked.
The spindle could run overriding the control if the spindle system is faulty or RF is not present. In such a case, do not operate CLVA.

[1] LD : Turn on/off the laser.
[2] Focus : Search the focus and turn on the focus.
[3] SPDL : Turn on/off the spindle.
[4] CLVA : Turn on/off normal servo of spindle servo.
[5] Trk. : Turn on/off the tracking servo.
[6] Sled : Turn on/off the sled servo.
[7] FCS. Srch : Turn on/off the focus search.
[8] FCS. OppL : Turn on/off the focus search to another layer of designated layer in Disc Type setting. (dual layer disc only)
[0] : All servo off.
→[R] Sled FWD (right cursor) : Move the sled forward.
←[L] Sled REV (left cursor) : Move the sled reverse.
↑[U] Sled FWD (up cursor) : Reset the sled.
↓[D] Sled REV (down cursor) : Limit in the sled.

2-3. Track/Layer Jump

```
          Track/Layer Jump
1.  1Tj         FWD R.Lj L0>L1
2.  1Tj         REV L.Lj L1>L0
3.500Tj Fine    FWD U.Fj L0>L1
4.500Tj Fine    REV D.Fj L1>L0
5.10kTj Dirc    FWD
6.10kTj Dirc    REV
7.20kTj Dirc    FWD
8.20kTj Dirc    REV

0. All Servo Off

                          Exit: RETURN
```

On this screen, track jump, etc. can be performed. Only for the DVD dual layer disc, the focus jump and layer jump are displayed in the right field

- [1] 1Tj FWD : 1 track jump forward.
- [2] 1Tj REV : 1 track jump reverse.
- [3] 500Tj FWD: 500 track jump (fine search)forward.
- [4] 500Tj REV : 500 track jump (fine search) reverse.
- [5] 10kTj FWD: 10k track jump (direct search) forward.
- [6] 10kTj REV : 10k track jump (direct search) reverse.
- [7] 20kTj FWD: 20k track jump (direct search) forward.
- [8] 20kTj REV : 20k track jump (direct search) reverse.
- [0] : All servo off.

2-4. Non EEPROM Write Adjust

```
      Non EEPROM Write Adjust

1. Focus Offset
2. Focus Gain
3. Trk.  Offset Coarse
4. Trk.  Offset Fine
5. Trk.  Gain
6. EQ    Boost

0.All Servo Off


                          Exit: RETURN
```

On this screen, each item can be adjusted manually. Select the desired number [1] to [0] from the remote commander, and current setting for the selected item will be displayed, then increase or decrease numeric value with the [↑] key or [↓] key. This value is stored in the EEPROM. If CLV has been applied, the jitter is displayed for reference for the adjustment.

- [1] Focus Offset : Adjusts focus offset.
- [2] Focus Gain : Adjusts focus gain.
- [3] TRK. Offset : Adjusts tracking offset of the RF amp (IC001) side.
- [4] TRK. Offset : Adjusts tracking offset of the DSP (IC401) side.
- [5] TRK. Gain : Adjusts track gain.
- [6] EQ Boost : Adjusts amount of boost of equalizer.
- [0] : All servo off.

2-5. EEPROM Write Adjust

```
        EEPROM Write Adjust

1. Focus  Offset
2. Focus  Gain
3. Trk.   Offset Coarse
4. ------
5. Trk.   Gain
6. EQ     Boost

0.All Servo Off


                          Exit: RETURN
```

On this screen, each item can be adjusted automatically. Select the desired number [1] to [0] from the remote commander, and selected item is adjusted automatically.

- [1] Focus Offset : Adjusts focus offset.
- [2] Focus Gain : Adjusts focus gain.
- [3] TRK. Offset : Adjusts tracking offset of the RF amp (IC001) side.
- [5] TRK. Gain : Adjusts track gain.
- [6] EQ Boost : Adjusts amount of boost of equalizer.
- [0] : All servo off.

2-6. Memory Check

Display images are shown as follows, and all two screens are able to switch by the [↑] key (UP) or [↓] key (DW).

```
EEPROM Data 1/2   CD  SL  L0  L1
Focus  Gain       xx  xx  xx  xx
Trk.   Gain       xx  xx  xx  xx
Focus  Offset     xx  xx  xx  xx
Trk.   Offset     xx  xx  xx  xx
EQ.    Boost      xx  xx  xx  xx
PI     Level      xx  xx  --  --
Fcs. Balance      --  xx  --  --
Jitter            xx  xx  xx  xx
Mirror Time       xx  xx  xx  --
FE Level          --  xx  --  --
Traverse Lv1.     --  xx  --  --
Next:DW Default:CLR    Exit:RET
```

```
EEPROM Data 2/2    CDRW DVDRW
Focus  Gain          xx    xx
Trk.   Gain          xx    xx
Focus  Offset        xx    xx
Trk.   Offset        xx    xx
EQ.    Boost         xx    xx




Prev:UP Default:CLR       Exit:RET
```

On this screen, current servo adjusted data stored in the EEPROM are displayed. The adjusted data are initialized by pressing the [CLEAR] key, but be careful that they are not recoverable after initialization.

Before clearing the adjusted data, make a note of the set data. This screen will also appear if [0]-All is selected in the Drive Auto Adjustment. In this case, default setting cannot be made.

2-7. Disc Check Memory

```
        Disc Check Memory

 1. SL Disc check
 2. CD Disc check
 3. DL Disc check




                        Exit: RETURN
```

On this screen, measure the mirror time of chucked disc, and write to the EEPROM.

2-8. Error Rate Display

```
         Error Rate Display
             UC   CR  Address
PI1 Err  Now xx xxxx xxxxxxxx
         Max xx xxxx xxxxxxxx
         Avg xx xxxx
PI2 Err  Now xx xxxx xxxxxxxx
         Max xx xxxx xxxxxxxx
         Avg xx xxxx
PO  Err  Now xx xxxx xxxxxxxx
         Max xx xxxx xxxxxxxx
         Avg xx xxxx

 Start:ENTER             Exit: RETURN
```

On this screen, measure and display the error rate.

UC : Incorrect value
CR : Correct value

2-9. SACD Water Mark Check

```
 SACD Water Mark Check



  PSP AMP
  PSN




  Start: ENTER          Exit: RETURN
```

On this screen, measure the PSP AMP value and PSN value of SACD water mark.

3. EMERGENCY HISTORY

On the Test Mode Menu screen, selecting [4] displays the information such as servo emergency history.
The history information from last 1 up to 10 can be scrolled with the [↑] key or [↓] key. Also, specific information can be displayed by directly entering that number with ten keys.

```
        ### EMG. History ###

  Laser Hours     CD  xxxxhxxm
                  DVD xxxxhxxm

a.   bb xx xx xx  xx xx xx xx
     xx xx xx xx  xx xx xx xx

a.   bb xx xx xx  xx xx xx xx
     xx xx xx xx  xx xx xx xx

   Select:1-9         Scroll:UP/DOWN
  (1.Latest EMG.)      Exit: RETURN
```

xxxxhxxm : The laser on total hours. Data below minutes are omitted.
a. : Error number.
bb : Error code.
xx : Not used.

- Clearing History Information

Clearing laser hours:
Press the [DVD DISPLAY] and [CLEAR] keys in this order.
Then both CD and DVD data are cleared.

Clearing emergency history:
Press the [DVD TOP MENU] and [CLEAR] keys in this order.

Initializing set up data:
Press [DVD MENU] and [CLEAR] keys in this order.
The data have been initialized when “EEPROM Initialize Finished.”. message is displayed. The EMG. History screen will be restored soon.

- Code list of Emergency History

10: Communication to RF AMP (IC001) failed.
11: Each servo for focus, tracking, and spindle is unlocked.
12: Check sum error of EEPROM (IC203).
14: Communication to servo DSP (IC401) failed, or servo DSP (IC401) is faulty.
15: Communication to DVD decoder (IC701) failed, or DVD decoder (IC701) is faulty.
16: Communication to DSD decoder (IC801) failed, or DSD decoder (IC801) is faulty.
20: Initialization of sled servo failed. It is not placed in the initial position.
23: Sled servo operation error.
24: Made a request to move the sled servo to wrong position.
30: Tracking balance adjustment error.
31: Tracking gain adjustment error.
33: Focus bias adjustment error.
34: Focus gain adjustment error.
35: Equalizer adjustment error.
40: Focus servo does not operate.
41: With a DVD dual layer disc, focus jump failed.
50: CLV (spindle) servo does not operate.
51: Spindle does not stop.
60: Made a request to seek nonexistent address.
61: Seek error of retry more than regulated times.
70: Control data could not be read.
80: Disc reading failed.

4. MECHA ERROR HISTORY

On the Test Mode Menu screen, selecting [5] displays the information of mechanism deck error history.
The history information from last 1 up to 8 can be scrolled with the [↑] key or [↓] key. Also, specific information can be displayed by directly entering that number with ten keys.

```
    ### Mecha Error History ###

  1. aa bb cc dd xx xx xx xx
  2. aa bb cc dd xx xx xx xx
  3. aa bb cc dd xx xx xx xx
  4. aa bb cc dd xx xx xx xx
  5. aa bb cc dd xx xx xx xx
  6. aa bb cc dd xx xx xx xx
  7. aa bb cc dd xx xx xx xx
  8. aa bb cc dd xx xx xx xx

                     Scroll:UP/DOWN
(1.Latest Err.)       Exit: RETURN
```

aa : The error in the midst of initializing the mechanism deck.
bb : The error in the midst of loading operation.
cc : The error in the midst of up/down the stocker.
dd : The error in the midst of switching the mechanism deck mode.
xx : Not used.

• Error code (aa)
FF : Complete the initializing. (normal operation)
11 : Stocker movement (to chucking position) failing in the midst of initializing the mechanism deck.
12 : Stocker movement (to chucking position) failing in the midst of initializing the mechanism deck.
1x : Initializing the mechanism deck.
2x : Initializing the mechanism deck.
3x : Initializing the mechanism deck.
41 : Disc eject failing in the midst of initializing the mechanism deck.
4x : Initializing the mechanism deck.
50 : Disc eject failing in the midst of initializing the mechanism deck.
5x : Initializing the mechanism deck.
A2 : Disc eject failing in the midst of initializing the mechanism deck.
Ax : Initializing the mechanism deck.
D3 : Disc eject failing in the midst of initializing the mechanism deck.
Dx : Initializing the mechanism deck.
Ex : Initializing the mechanism deck.

• Error code (bb)
00 : Initializing the mechanism deck.
10 : Retry over of eject and loading.
30 : Open operation in no disc status.
60 : Retry over of eject and loading.
70 : Disc is chucking position.
81 : Retry failed of disc movement from chucking position to stocker.
83 : Retry preparation failed of disc movement from chucking position to stocker.
90 : Disc is stored in the stocker.
A1 : Retry failed of disc movement from stocker to chucking position.
A3 : Retry preparation failed of disc movement from stocker to chucking position.
B0 : Just before the release operation.
B1 : Retry failed of the release operation.

• Error code (cc)
10 : Under a stop.
22 : Retry preparation failed.
23 : Retry failed.

• Error code (dd)
10 : Under a stop.
22 : Retry preparation failed.
23 : Retry failed.

5. VERSION INFORMATION

On the Test Mode Menu screen, selecting [6] displays the ROM version and region code.
The parenthesized hexadecimal number in version field is checksum value of ROM.

```
    ## Version Information ##

IF con.   Ver.x. xx

SYScon.   Ver.x. xx  (xxxx)
      Model      DAV-xxx
      Region     0x
      Config     xxxxxxxx

Front End Ver.x.xx


                       Exit: RETURN
```

IF con. : The version of system controller (IC901).
SYScon. : The version of DVD system processor (IC206).
Front End: The version of mechanism controller (IC301).

6. VIDEO LEVEL ADJUSTMENT

On the Test Mode Menu screen, selecting [7] displays color bars for video level adjustment. During display of color bars, OSD disappears but the menu screen will be restored if pressing the [RETURN] key.

SECTION 2
ELECTRICAL ADJUSTMENT

[TEST DISC LIST]

Use the following test disc on test mode.

TDV-520CSO (DVD-SL) : PART No. J-2501-236-A
LUV-P01 (CD) : PART No. 4-999-032-01
TDV-540C (DVD-DL) : PART No. J-2501-235-A

Note: Do not use exiting test disc for DVD.

AUTO SERVO ADJUSTMENT

After parts related to the servo circuit (RF amplifier (IC001), DSP (IC401), motor driver (IC501), EEPROM (IC302) so on) and optical pick-up (DBU-1) are replaced, re-adjusting the servo circuit is necessary. Select “ALL” at “1. DRIVE AUTO ADJUSTMENT” (Refer to page 4 in TEST MODE) and adjust DVD-SL (single layer), CD and DVD-DL (dual layer).

HCD-FR1/FR8/FR9

SONY

US Model
HCD-FR1/FR8/FR9
Canadian Model
HCD-FR1

SERVICE MANUAL

Ver 1.2 2004.08

SUPPLEMENT-2

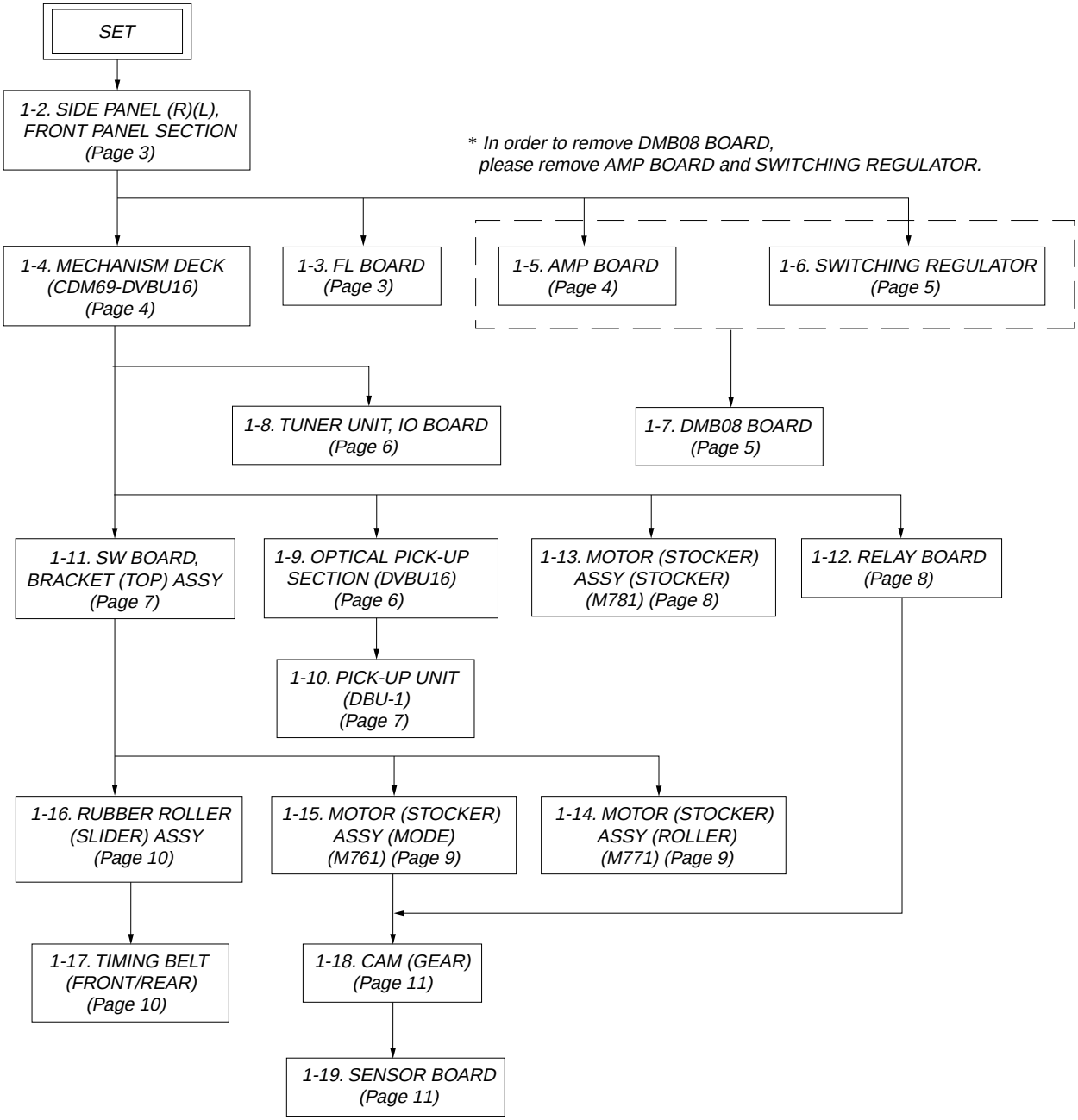
Subject : DISASSEMBLY, ASSEMBLY, Block Diagram, IC Block Diagrams, and IC Pin Function Description

9-879-011-82

SECTION 1
DISASSEMBLY

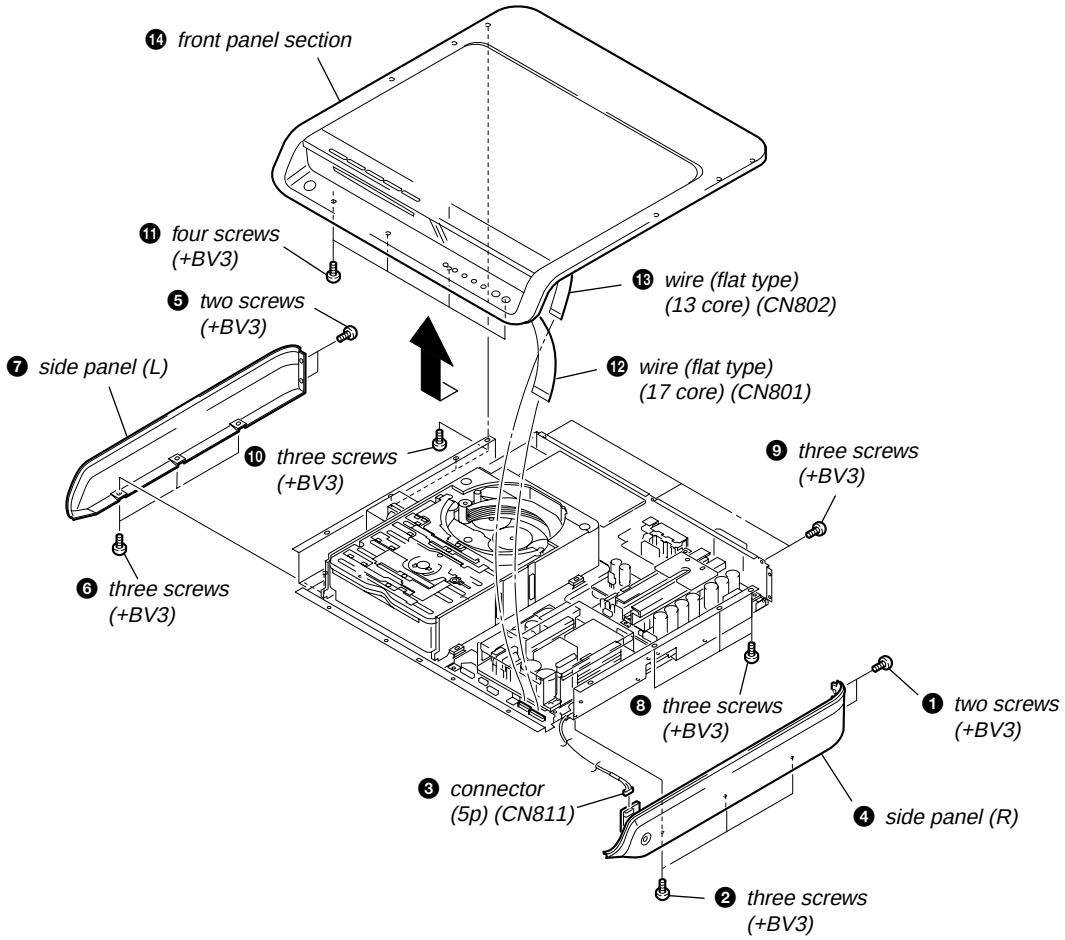
• This set can be disassembled in the order shown below.

1-1. FLOW CHART

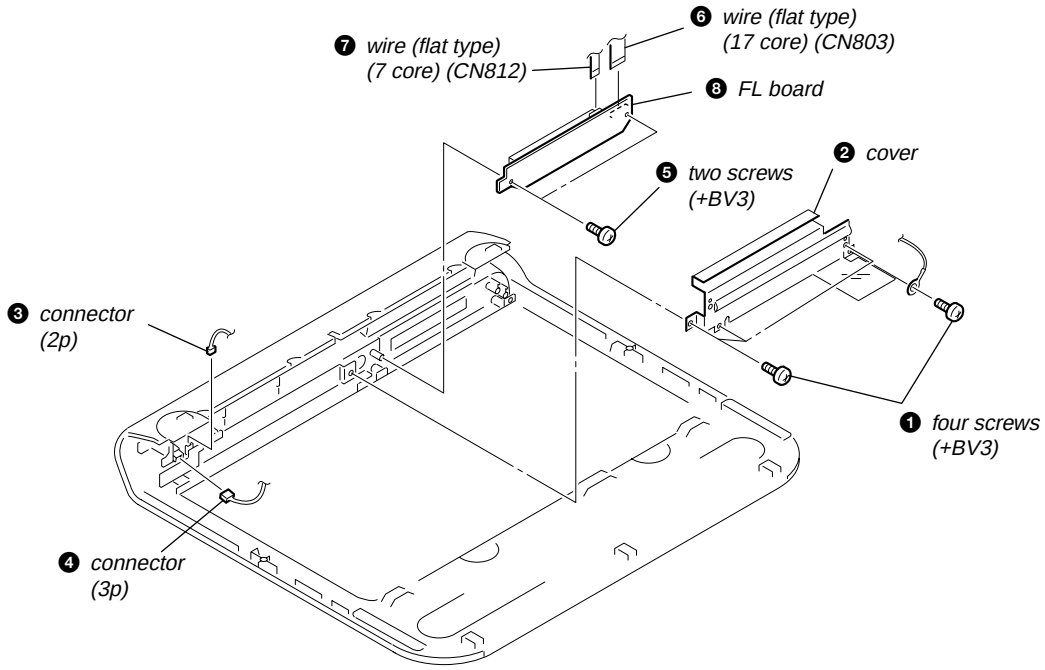

SET
1-2. SIDE PANEL (R)(L), FRONT PANEL SECTION (Page 3)
* In order to remove DMB08 BOARD, please remove AMP BOARD and SWITCHING REGULATOR.
1-4. MECHANISM DECK (CDM69-DVBU16) (Page 4)
1-3. FL BOARD (Page 3)
1-5. AMP BOARD (Page 4)
1-6. SWITCHING REGULATOR (Page 5)
1-8. TUNER UNIT, IO BOARD (Page 6)
1-7. DMB08 BOARD (Page 5)
1-11. SW BOARD, BRACKET (TOP) ASSY (Page 7)
1-9. OPTICAL PICK-UP SECTION (DVBU16) (Page 6)
1-13. MOTOR (STOCKER) ASSY (STOCKER) (M781) (Page 8)
1-12. RELAY BOARD (Page 8)
1-10. PICK-UP UNIT (DBU-1) (Page 7)
1-16. RUBBER ROLLER (SLIDER) ASSY (Page 10)
1-15. MOTOR (STOCKER) ASSY (MODE) (M761) (Page 9)
1-14. MOTOR (STOCKER) ASSY (ROLLER) (M771) (Page 9)
1-17. TIMING BELT (FRONT/REAR) (Page 10)
1-18. CAM (GEAR) (Page 11)
1-19. SENSOR BOARD (Page 11)

Note: Follow the disassembly procedure in the numerical order given.

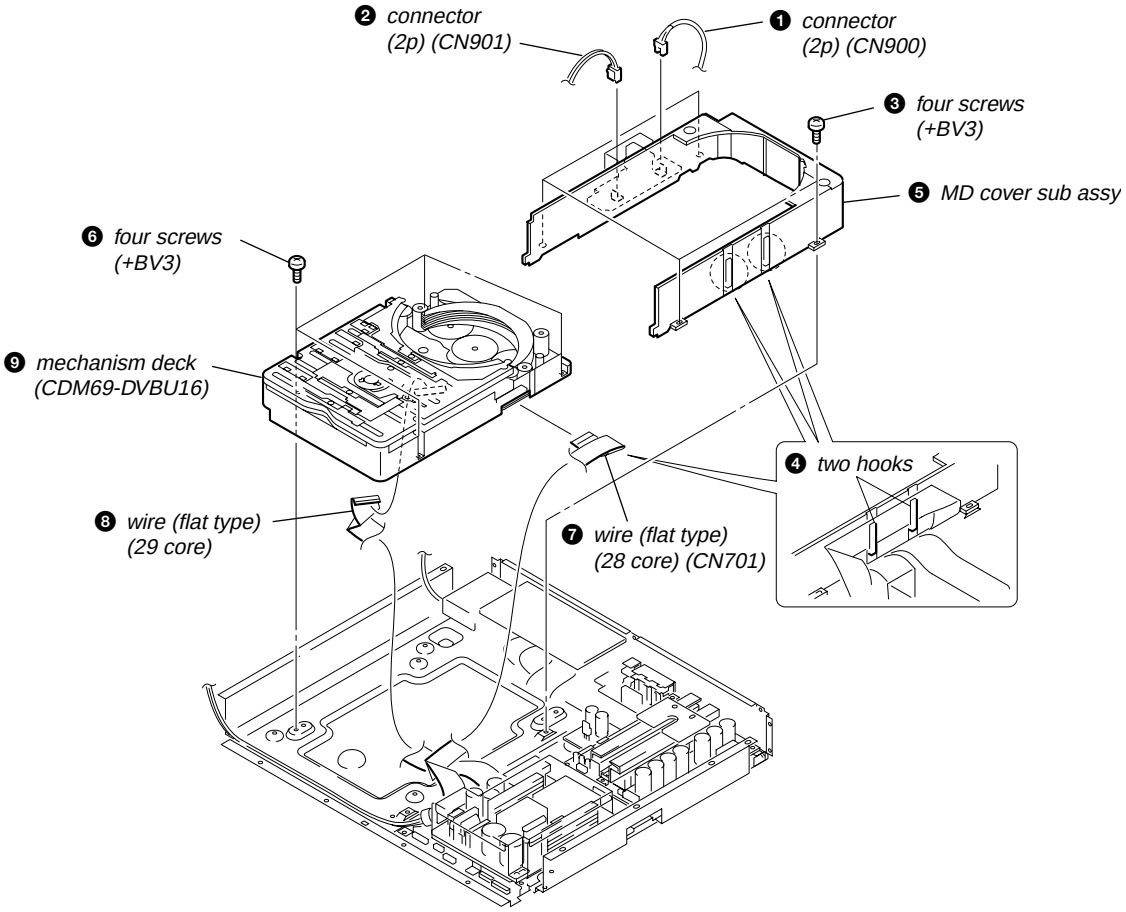
1-2. SIDE PANEL (R)(L), FRONT PANEL SECTION


⓮ front panel section
⓫ four screws (+BV3)
❺ two screws (+BV3)
❼ side panel (L)
⓭ wire (flat type) (13 core) (CN802)
⓬ wire (flat type) (17 core) (CN801)
❿ three screws (+BV3)
❾ three screws (+BV3)
❻ three screws (+BV3)
❽ three screws (+BV3)
❶ two screws (+BV3)
❸ connector (5p) (CN811)
❹ side panel (R)
❷ three screws (+BV3)

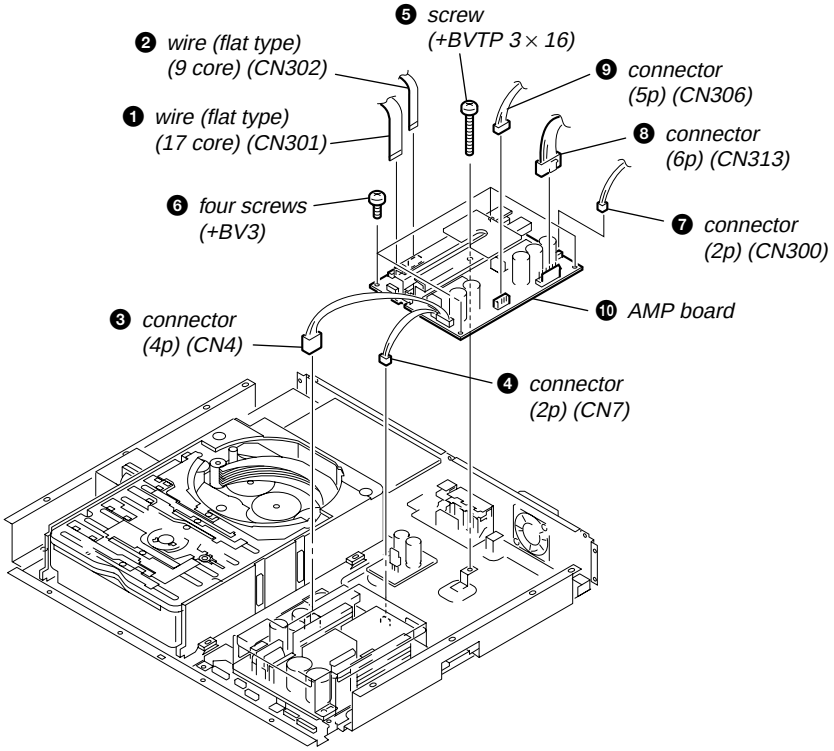
1-3. FL BOARD


❻ wire (flat type) (17 core) (CN803)
❼ wire (flat type) (7 core) (CN812)
❽ FL board
❷ cover
❺ two screws (+BV3)
❸ connector (2p)
❶ four screws (+BV3)
❹ connector (3p)

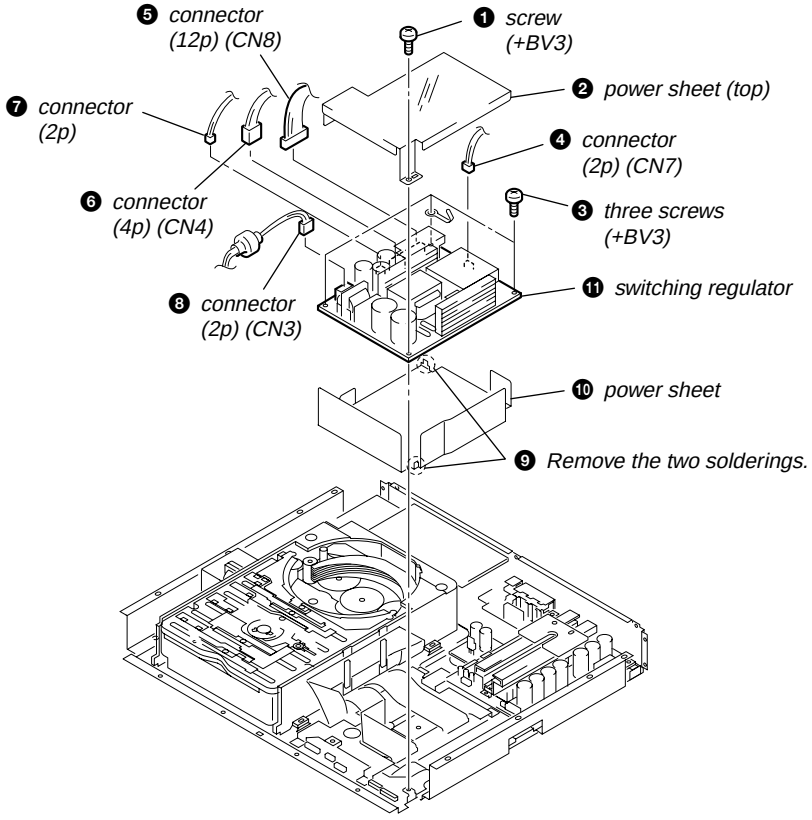
1-4. MECHANISM DECK (CDM69-DVBU16)


❷ connector (2p) (CN901)
❶ connector (2p) (CN900)
❸ four screws (+BV3)
❺ MD cover sub assy
❻ four screws (+BV3)
❾ mechanism deck (CDM69-DVBU16)
❹ two hooks
❽ wire (flat type) (29 core)
❼ wire (flat type) (28 core) (CN701)

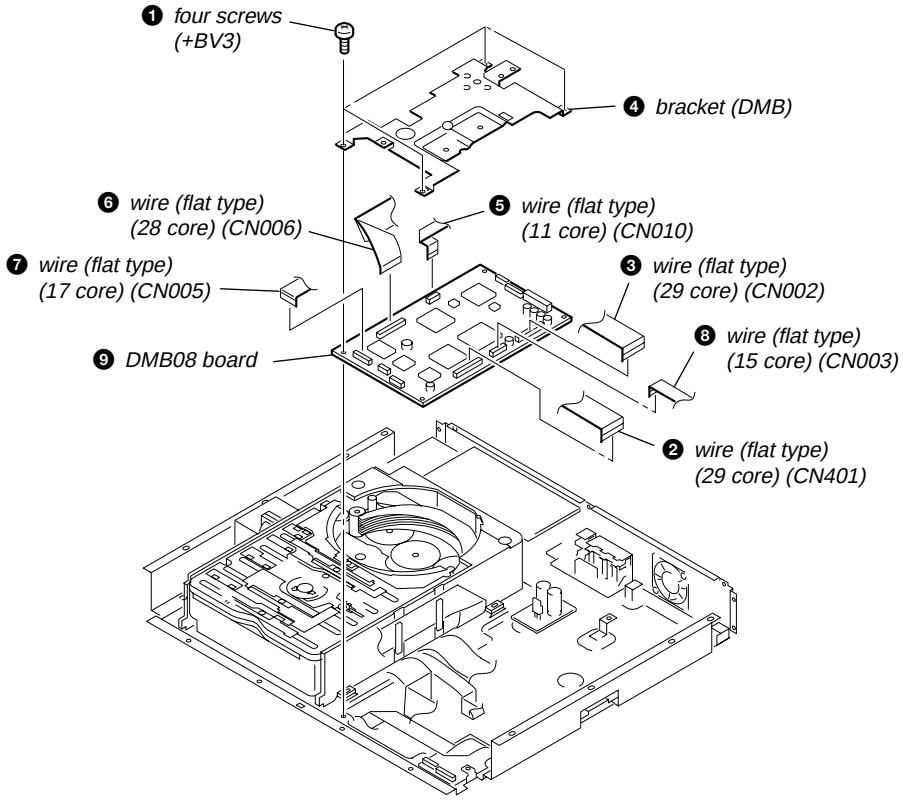
1-5. AMP BOARD


❺ screw (+BVTP 3 × 16)
❷ wire (flat type) (9 core) (CN302)
❾ connector (5p) (CN306)
❶ wire (flat type) (17 core) (CN301)
❽ connector (6p) (CN313)
❻ four screws (+BV3)
❼ connector (2p) (CN300)
❿ AMP board
❸ connector (4p) (CN4)
❹ connector (2p) (CN7)

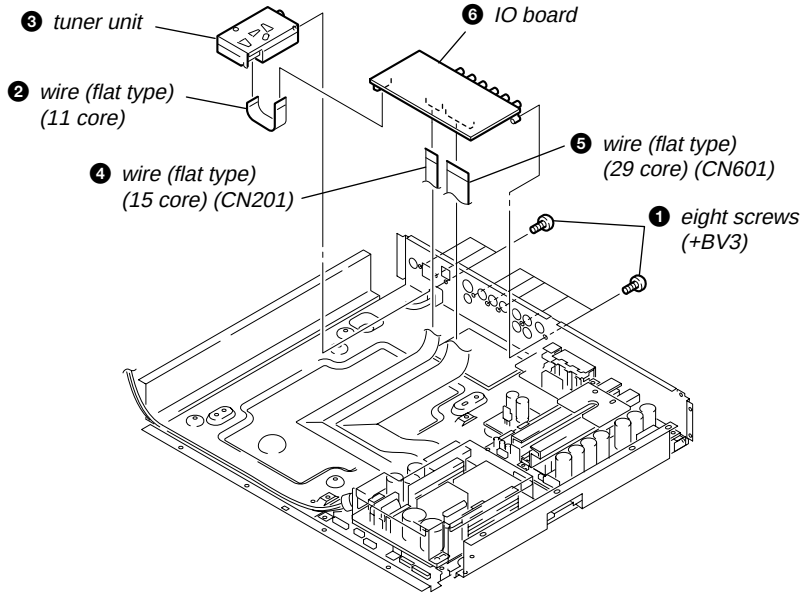
1-6. SWITCHING REGULATOR



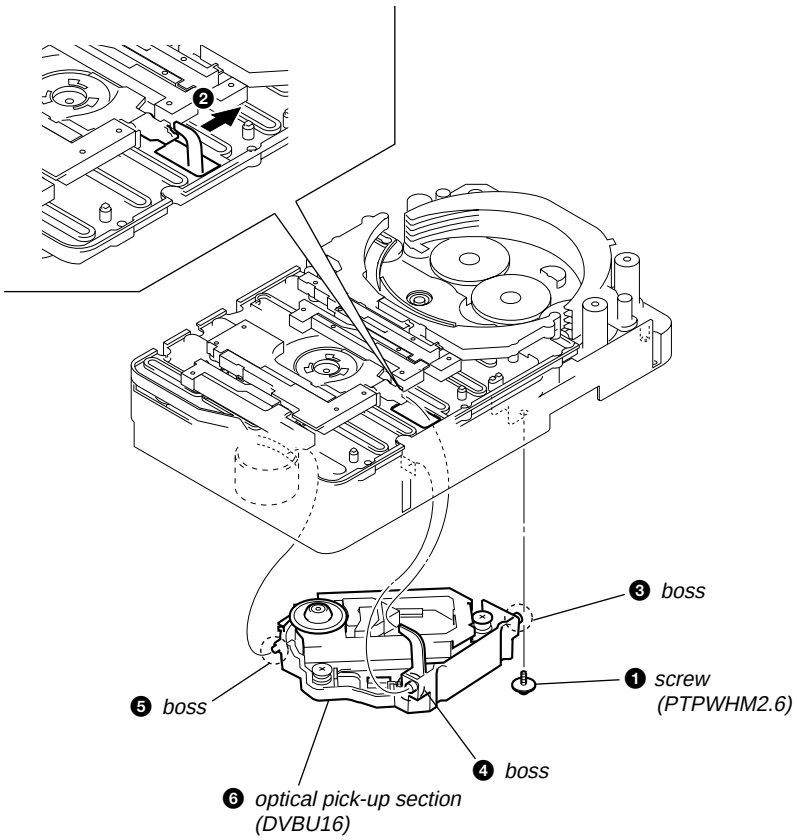
1-7. DMB08 BOARD


❶ four screws (+BV3)
❹ bracket (DMB)
❻ wire (flat type) (28 core) (CN006)
❺ wire (flat type) (11 core) (CN010)
❼ wire (flat type) (17 core) (CN005)
❸ wire (flat type) (29 core) (CN002)
❽ wire (flat type) (15 core) (CN003)
❾ DMB08 board
❷ wire (flat type) (29 core) (CN401)

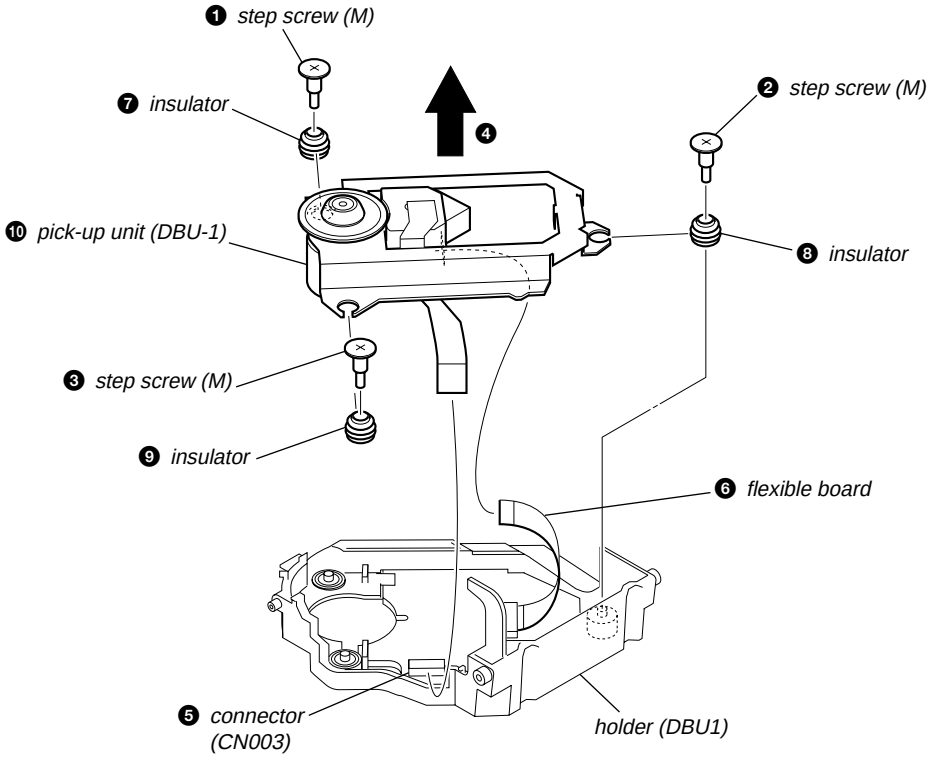
1-8. TUNER UNIT, IO BOARD



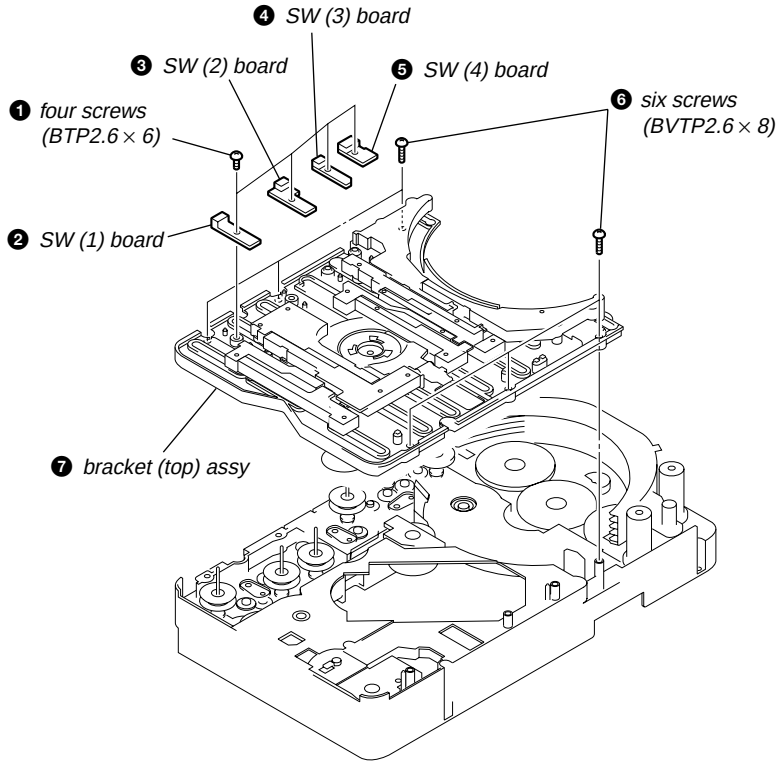
1-9. OPTICAL PICK-UP SECTION (DVBU16)



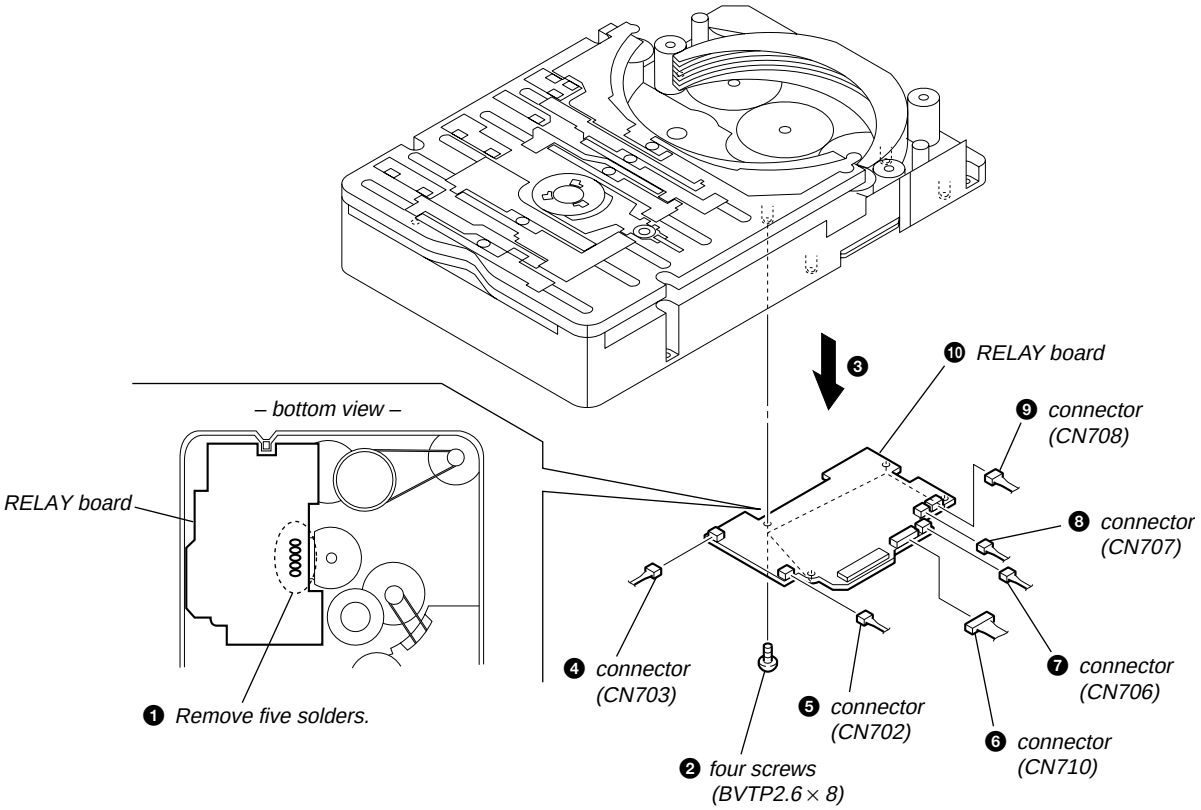
1-10. PICK-UP UNIT (DBU-1)



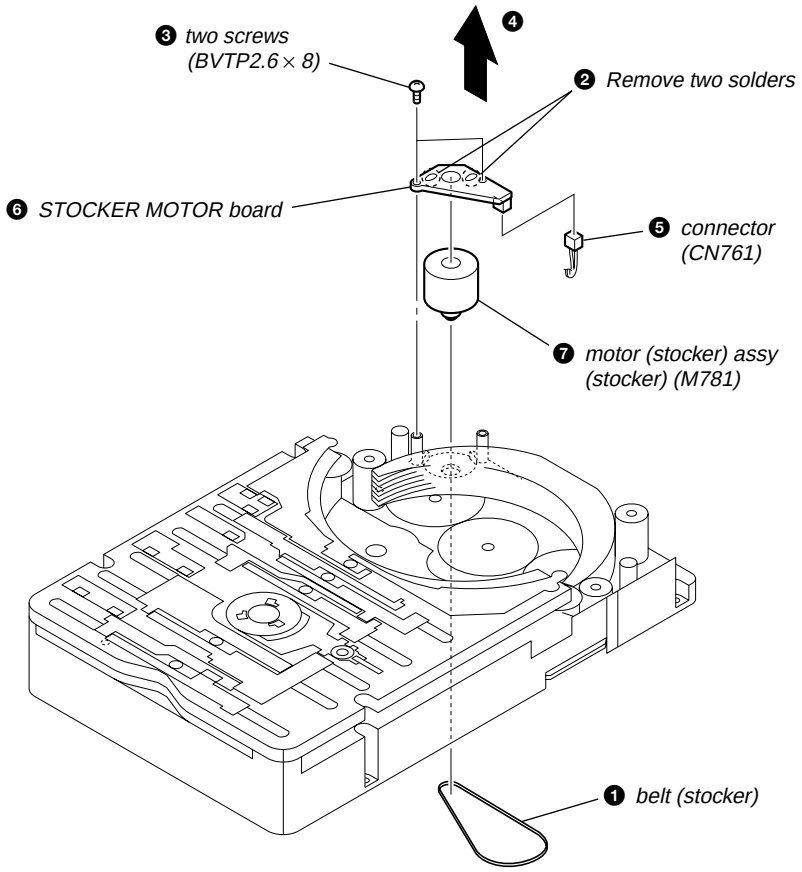
1-11. SW BOARD, BRACKET (TOP) ASSY



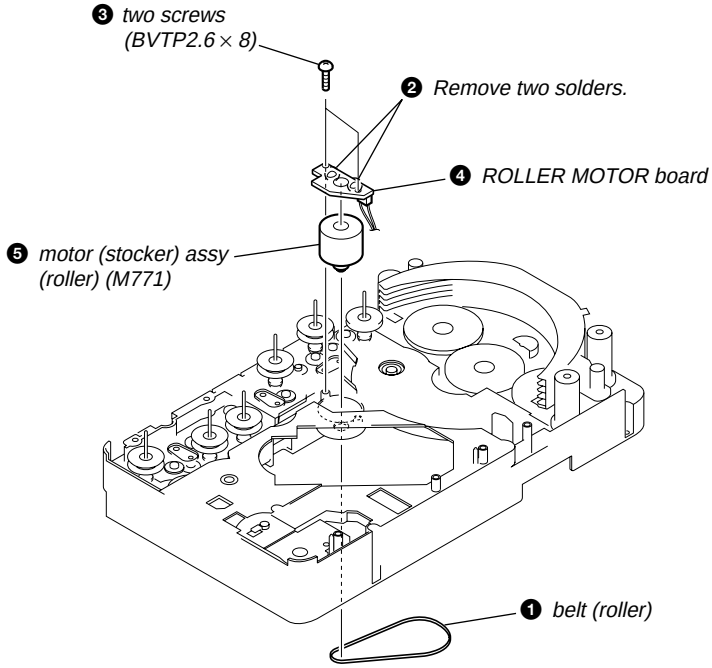
1-12. RELAY BOARD



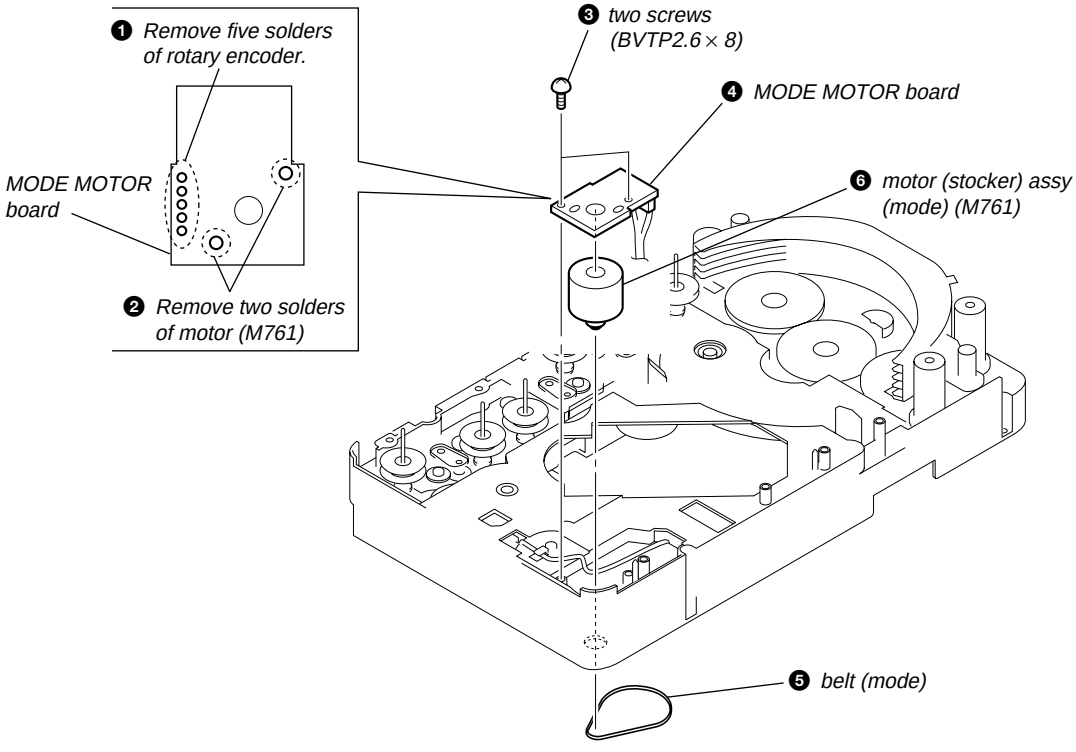
1-13. MOTOR (STOCKER) ASSY (STOCKER)(M781)



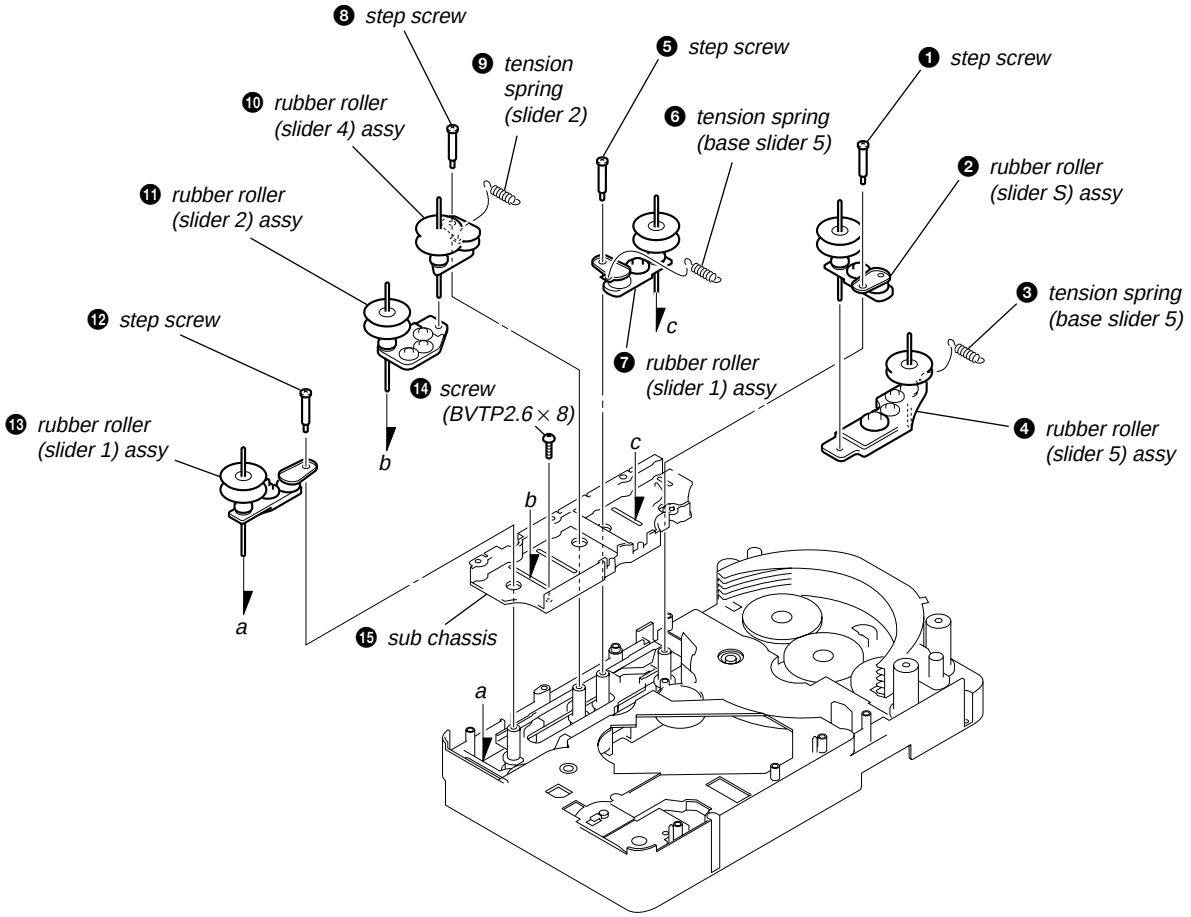
1-14. MOTOR (STOCKER) ASSY (ROLLER)(M771)



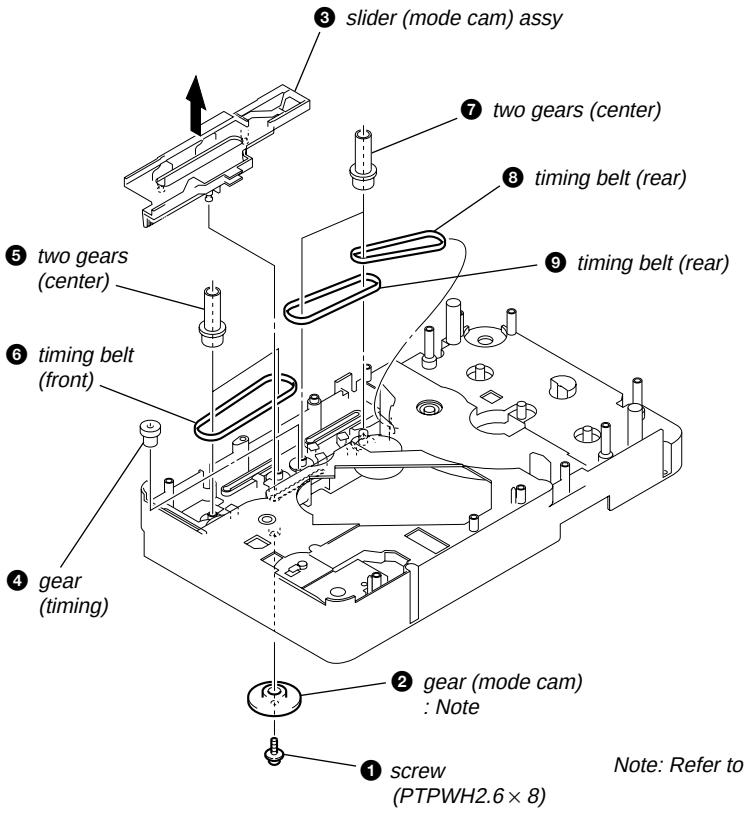
1-15. MOTOR (STOCKER) ASSY (MODE)(M761)

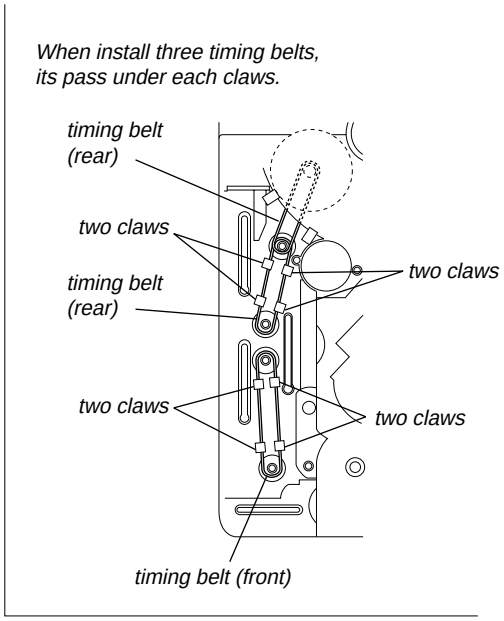


1-16. RUBBER ROLLER (SLIDER) ASSY



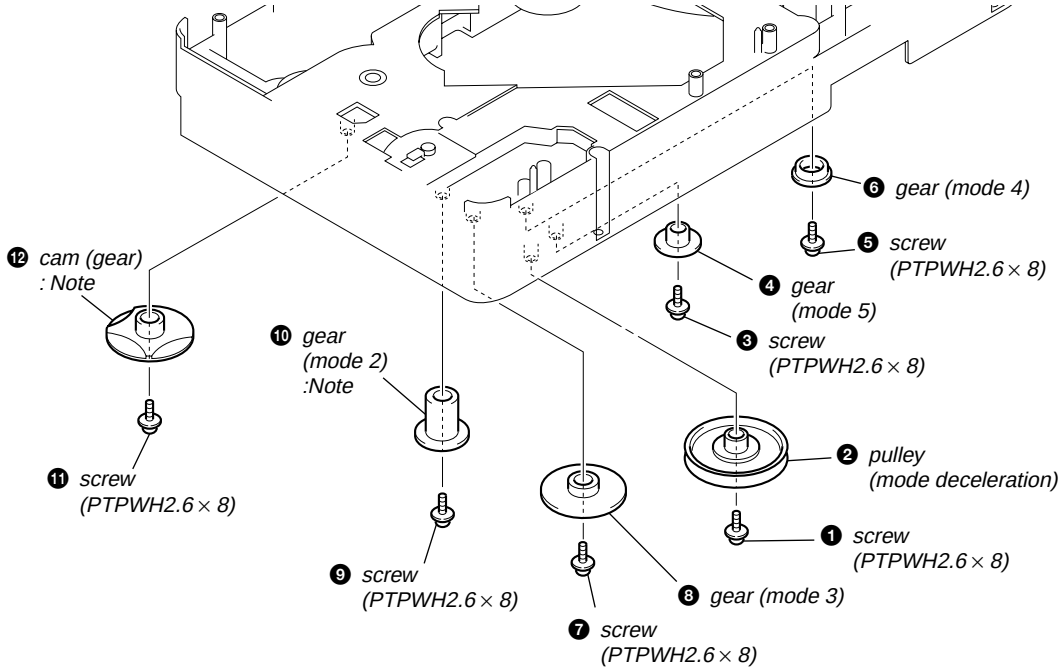
1-17. TIMING BELT (FRONT/REAR)


❸ slider (mode cam) assy
❼ two gears (center)
❽ timing belt (rear)
❺ two gears (center)
❾ timing belt (rear)
❻ timing belt (front)
❹ gear (timing)
❷ gear (mode cam) : Note
❶ screw (PTPWH2.6 × 8)



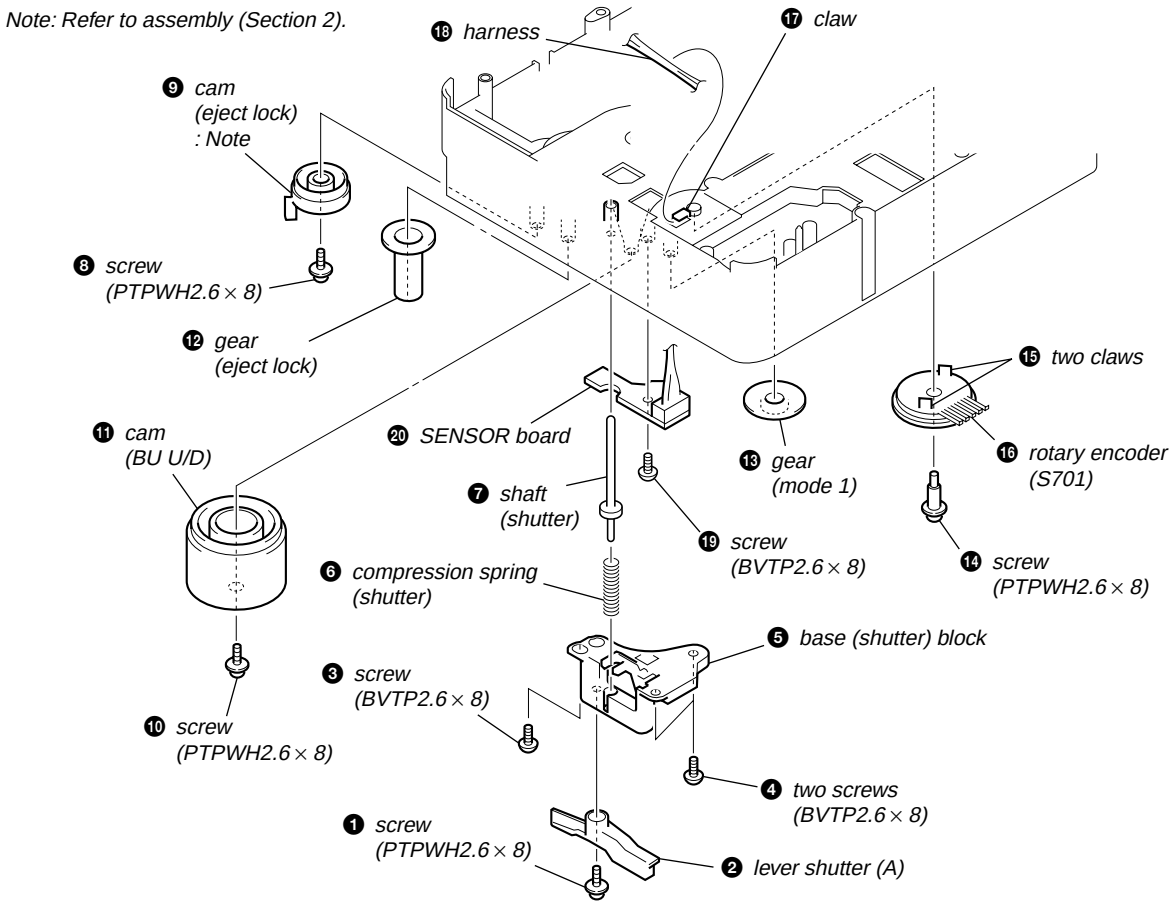
Note: Refer to assembly (Section 4)

1-18. CAM (GEAR)



Note: Refer to assembly (Section 2).

1-19. SENSOR BOARD

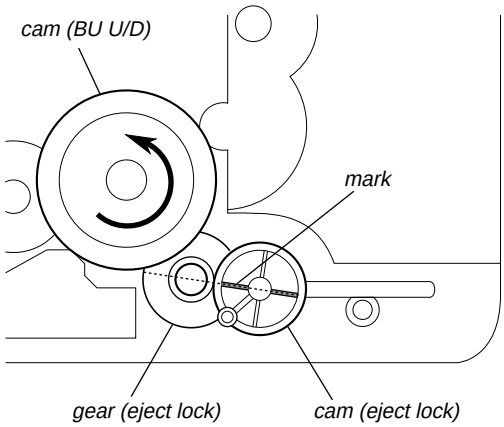


SECTION 2
ASSEMBLY

• This is can be assemble according to the following sequence.

2-1. HOW TO INSTALL THE CAM (EJECT LOCK)

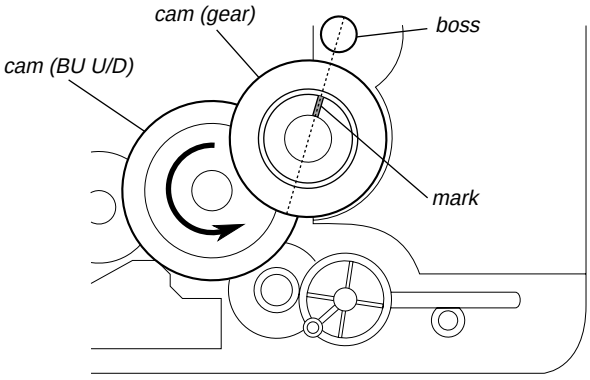
❶ *Rotate the cam (BU U/D) fully in the direction of arrow.*
❷ *Engage the gear (eject lock) and the gear of the cam (eject lock) aligning the mark with the center of the gear (eject lock).*



– bottom view • front –

2-2. HOW TO INSTALL THE CAM (GEAR)

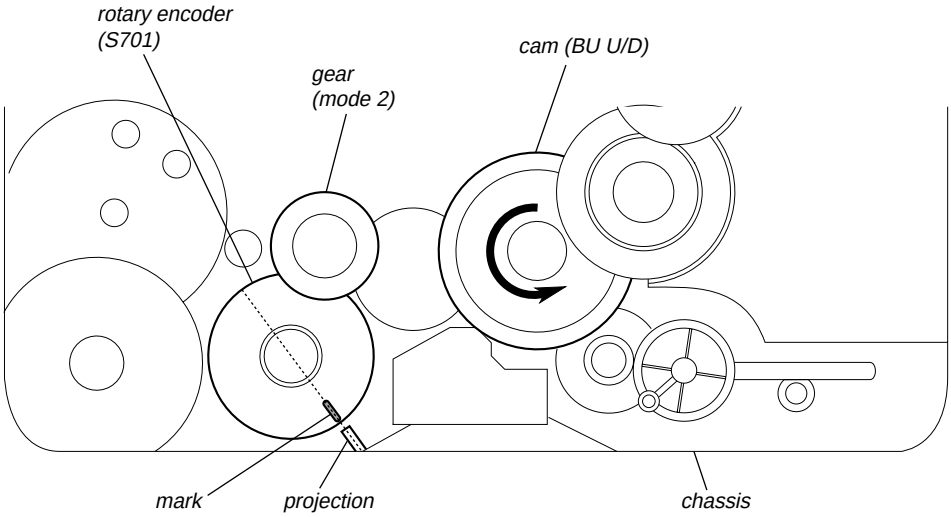
❶ *Check that the cam (BU U/D) can not be rotated in the direction of arrow.*
❷ *Align the mark on the cam (gear) with the boss as shown in the figure and install the cam (gear).*



– bottom view • front –

2-3. HOW TO INSTALL THE GEAR (MODE 2)

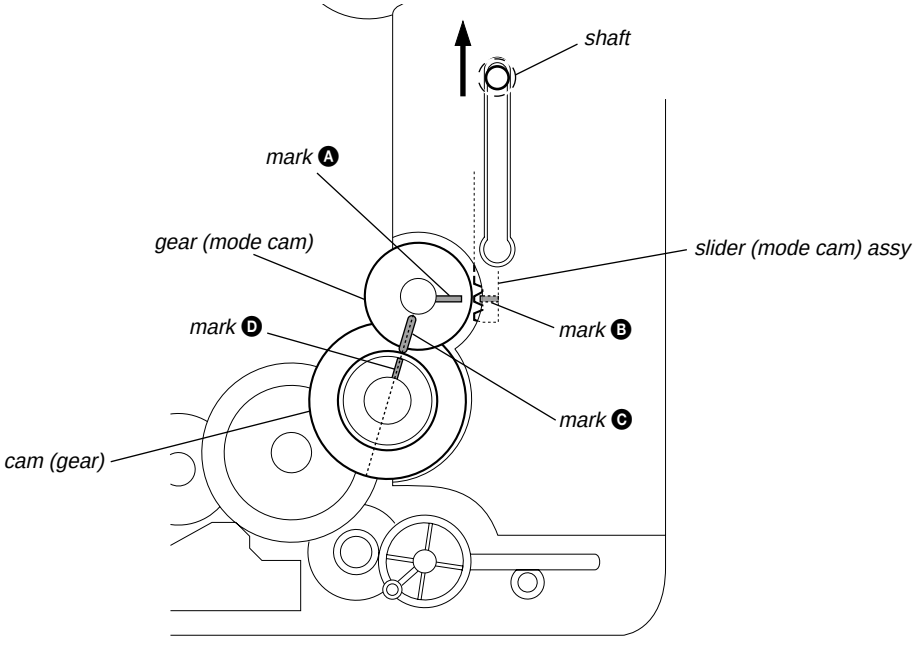
❶ *Align the mark on the rotary encoder (S701) with the projection of the assy.*
❷ *Check that the cam (BU U/D) can not be rotated in the direction of arrow.*
❸ *Install the gear (mode 2).*



– bottom view • front –

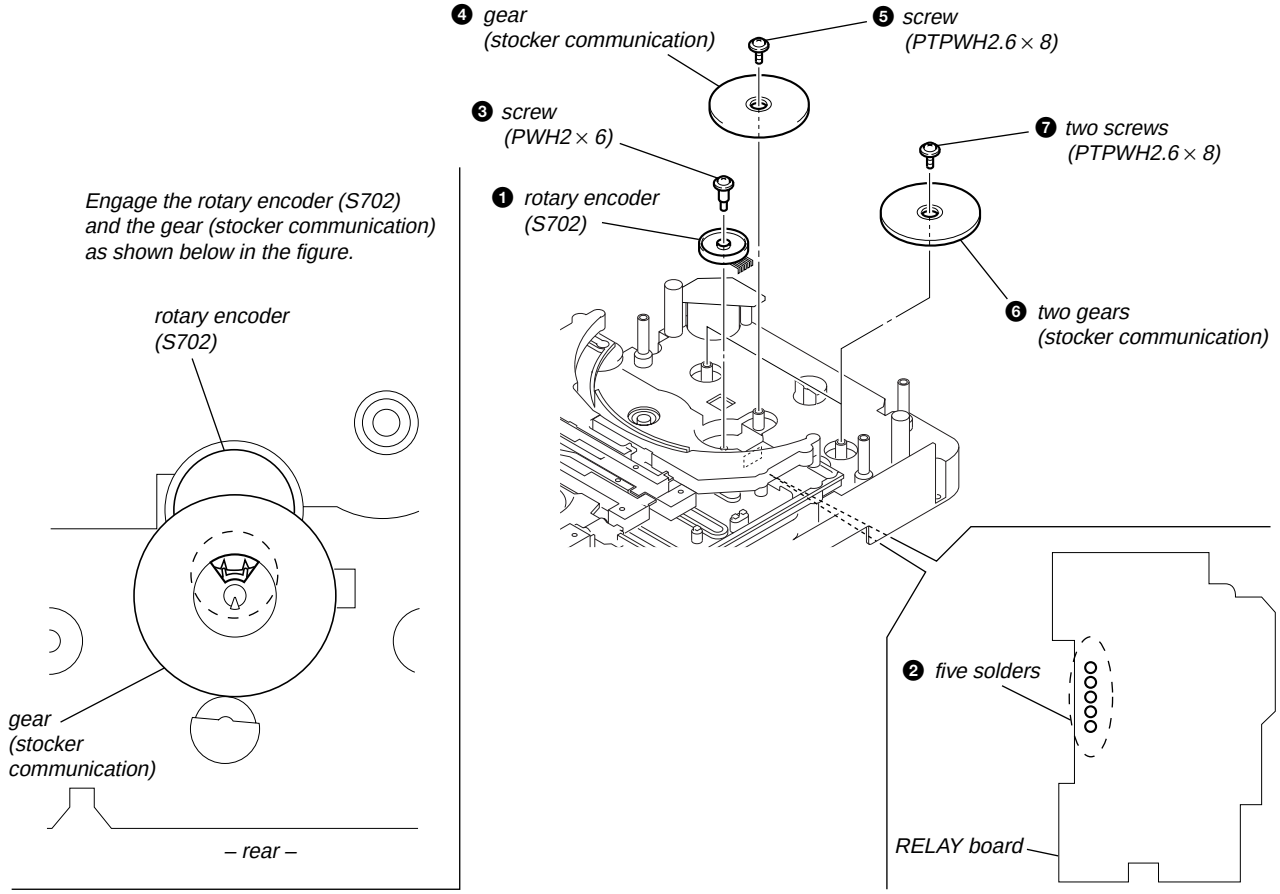
2-4. HOW TO INSTALL THE GEAR (MODE CAM)

❶ *Slide the shaft in the direction of arrow.*
❷ *Align mark Ⓐ on the gear (mode cam) with mark Ⓑ on the slider (mode cam) assy, then install the gear (mode cam).*
❸ *Check that mark Ⓒ on the gear (mode cam) is in alignment with mark Ⓓ on the cam (gear).*

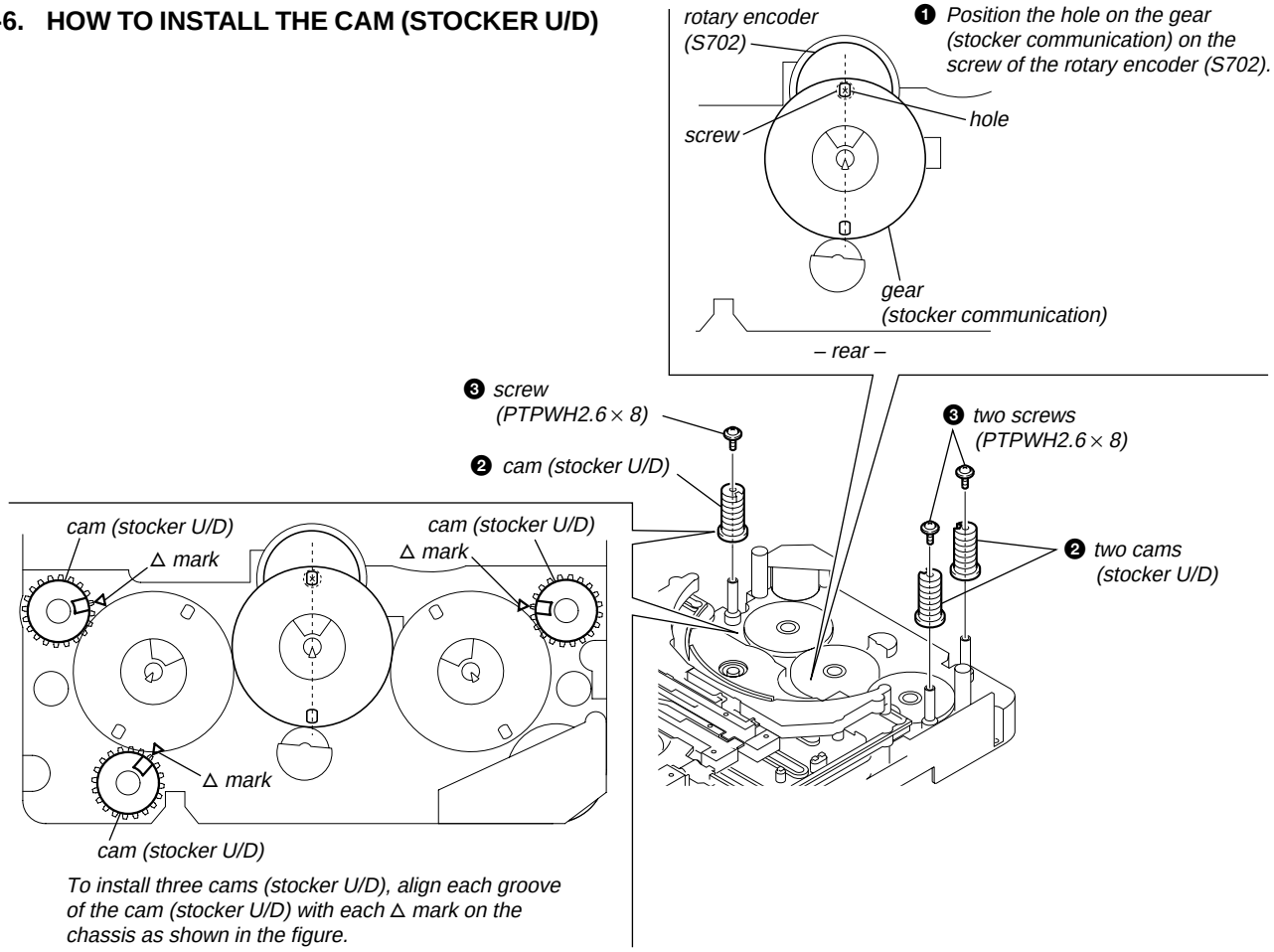


– bottom view • front –

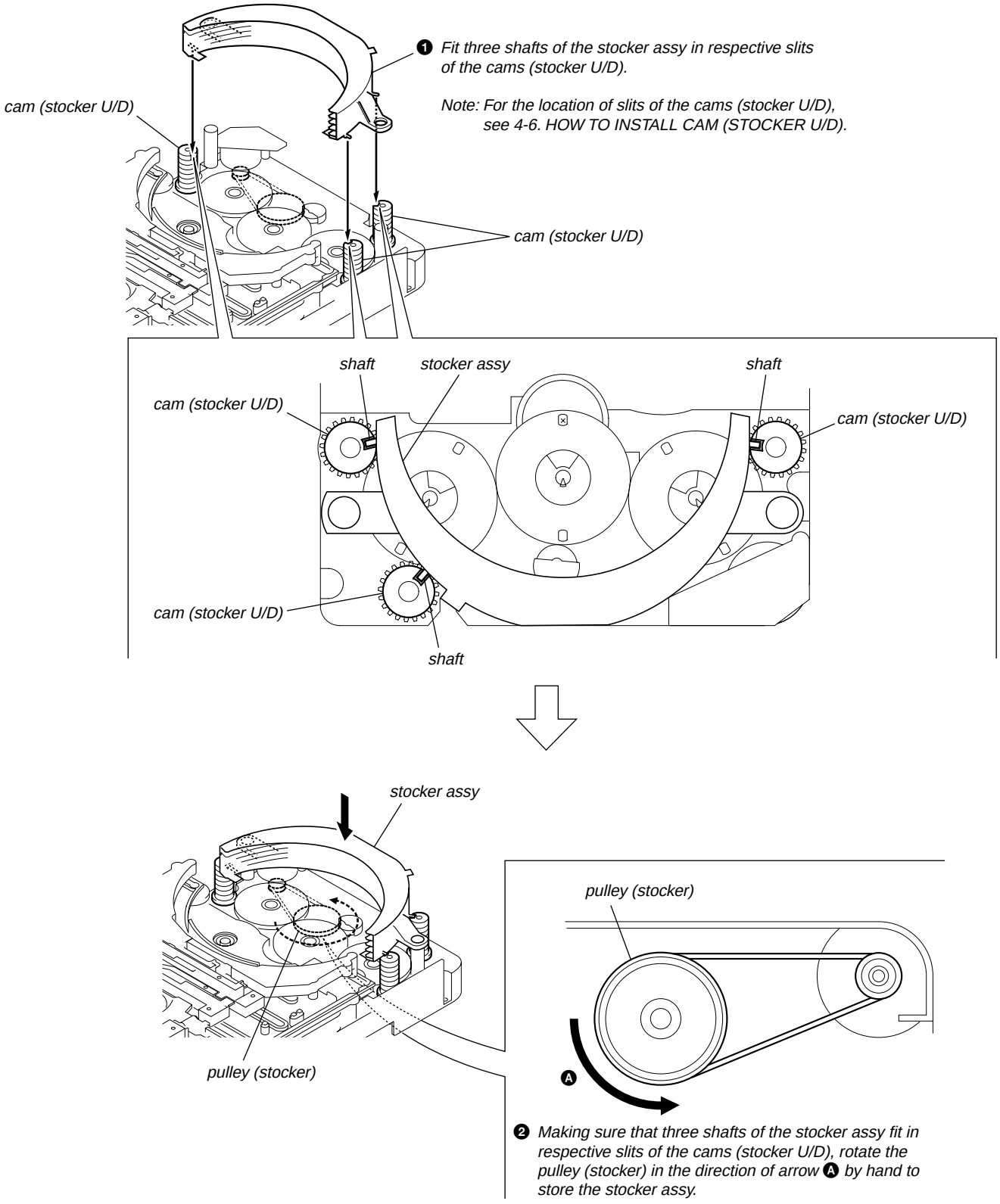
2-5. HOW TO INSTALL THE ROTARY ENCODER (S702), GEAR (STOCKER COMMUNICATION)


❹ gear (stocker communication)
❺ screw (PTPWH2.6 × 8)
❸ screw (PWH2 × 6)
❼ two screws (PTPWH2.6 × 8)
❶ rotary encoder (S702)
❻ two gears (stocker communication)
Engage the rotary encoder (S702) and the gear (stocker communication) as shown below in the figure.
rotary encoder (S702)
gear (stocker communication)
– rear –
❷ five solders
RELAY board

2-6. HOW TO INSTALL THE CAM (STOCKER U/D)


rotary encoder (S702)
❶ Position the hole on the gear (stocker communication) on the screw of the rotary encoder (S702).
screw
hole
gear (stocker communication)
– rear –
❸ screw (PTPWH2.6 × 8)
❷ cam (stocker U/D)
❸ two screws (PTPWH2.6 × 8)
❷ two cams (stocker U/D)
cam (stocker U/D)
△ mark
cam (stocker U/D)
△ mark
△ mark
cam (stocker U/D)
To install three cams (stocker U/D), align each groove of the cam (stocker U/D) with each △ mark on the chassis as shown in the figure.

2-7. HOW TO INSTALL THE STOCKER ASSY

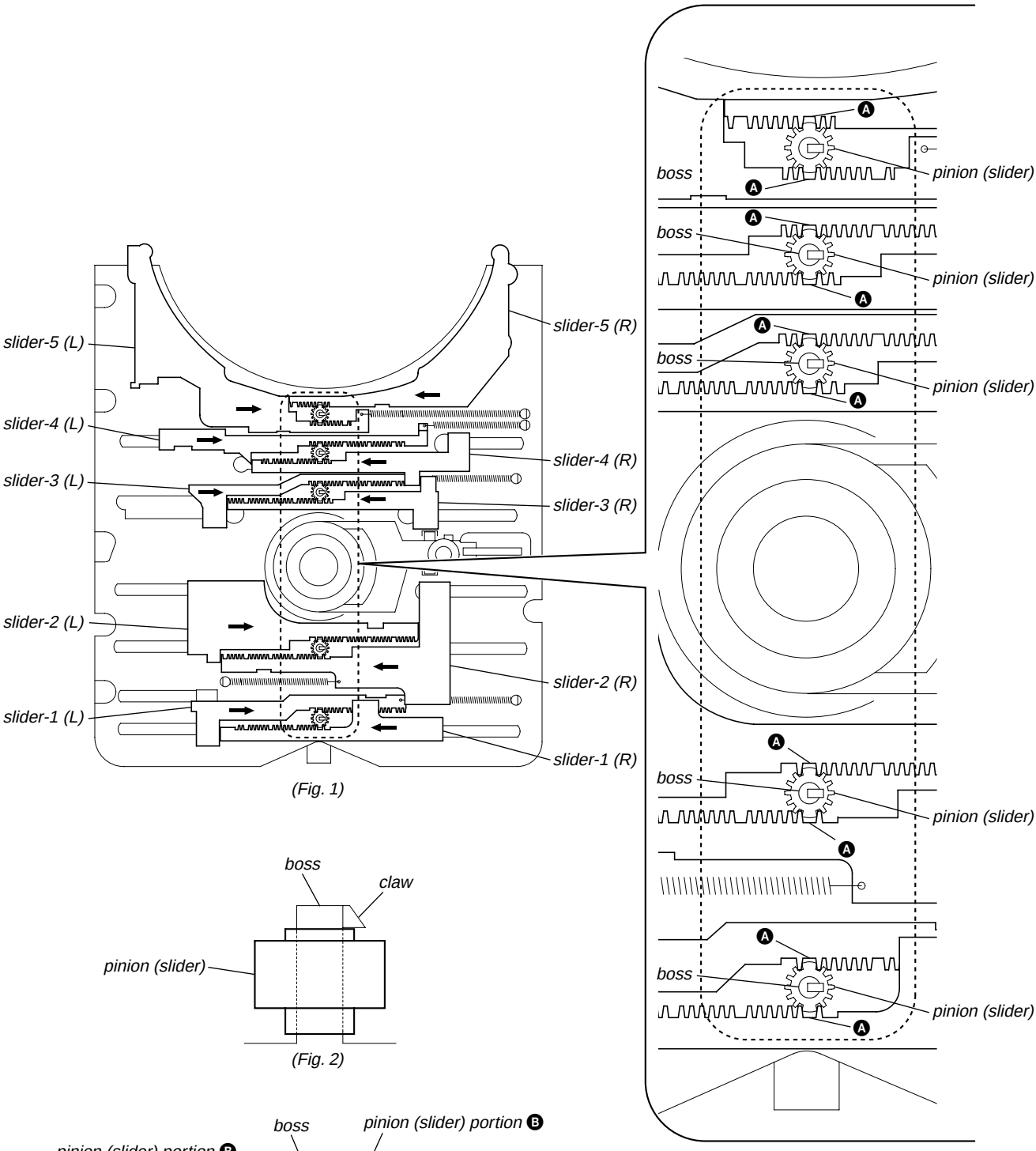

❶ Fit three shafts of the stocker assy in respective slits of the cams (stocker U/D).
Note: For the location of slits of the cams (stocker U/D), see 4-6. HOW TO INSTALL CAM (STOCKER U/D).
cam (stocker U/D)
cam (stocker U/D)
shaft
stocker assy
shaft
cam (stocker U/D)
cam (stocker U/D)
cam (stocker U/D)
shaft
stocker assy
pulley (stocker)
pulley (stocker)
A
❷ Making sure that three shafts of the stocker assy fit in respective slits of the cams (stocker U/D), rotate the pulley (stocker) in the direction of arrow A by hand to store the stocker assy.

2-8. PHASE ADJUSTMENT BETWEEN PINIONS (SLIDER) AND SLIDER-1 TO 5 (L/R)

❶ *As shown in the following figure, adjust the portion Ⓐ of each slider to the boss with the slider-1 to 5 (L) and the slider-1 to 5 (R) pushed in the arrow directions respectively (see Fig. 1).*

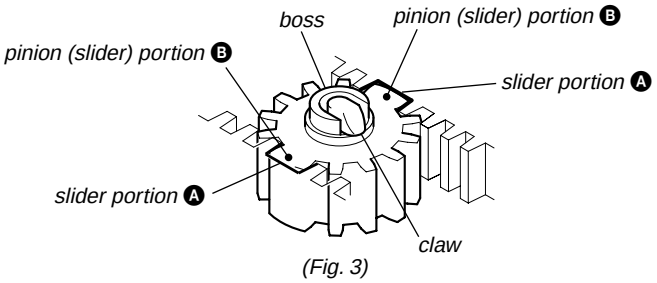
❷ *Paying attention to the up/down direction of the pinion (slider) (see Fig. 2), install each pinion (slider) so that the portion Ⓑ of each pinion (slider) meshes with the portion Ⓐ of each slider (see Fig. 3).*

Note: Push in the pinion (slider) until the claw of the boss comes out above the pinion (slider) to lock.



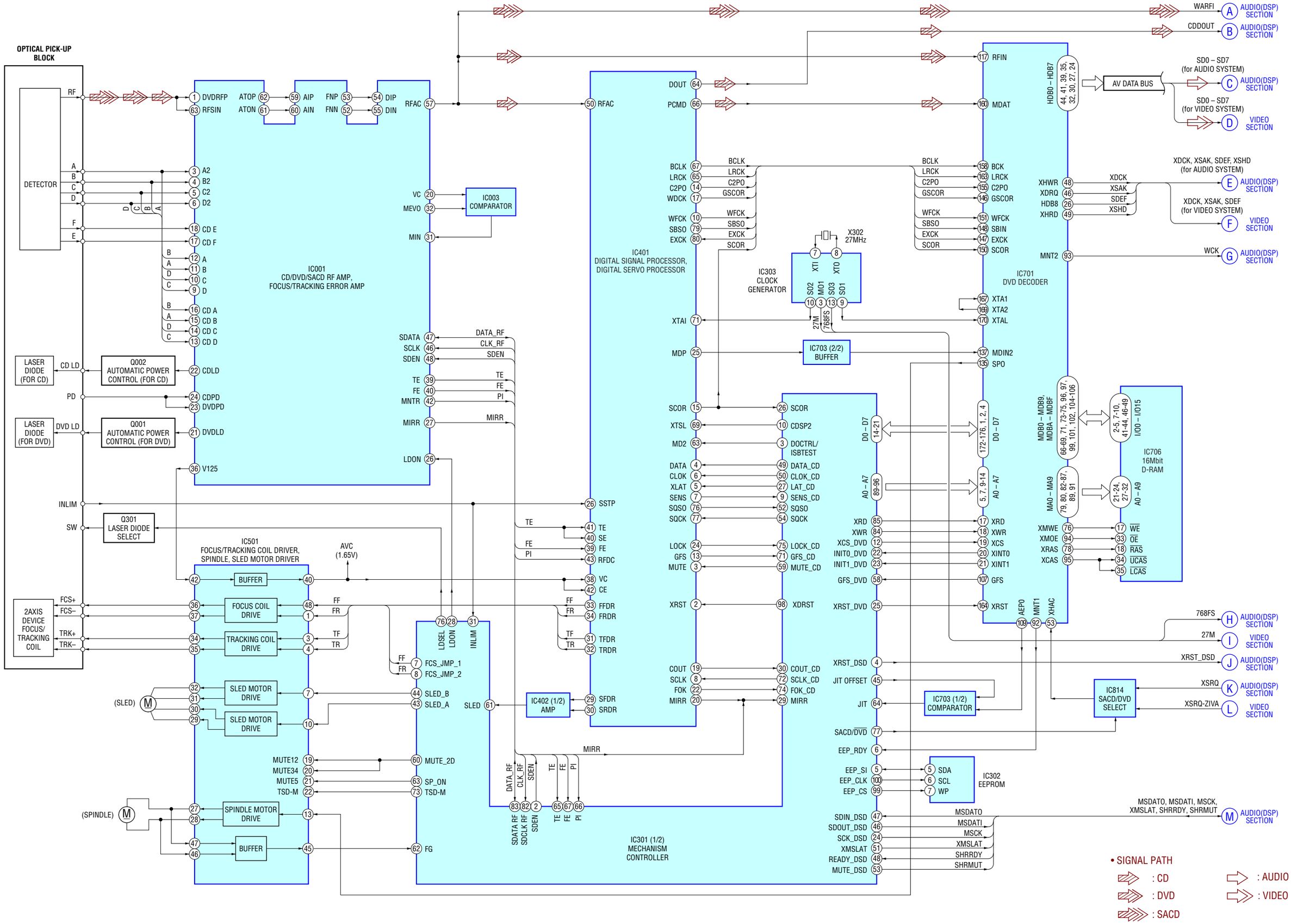
(Fig. 1)

(Fig. 2)

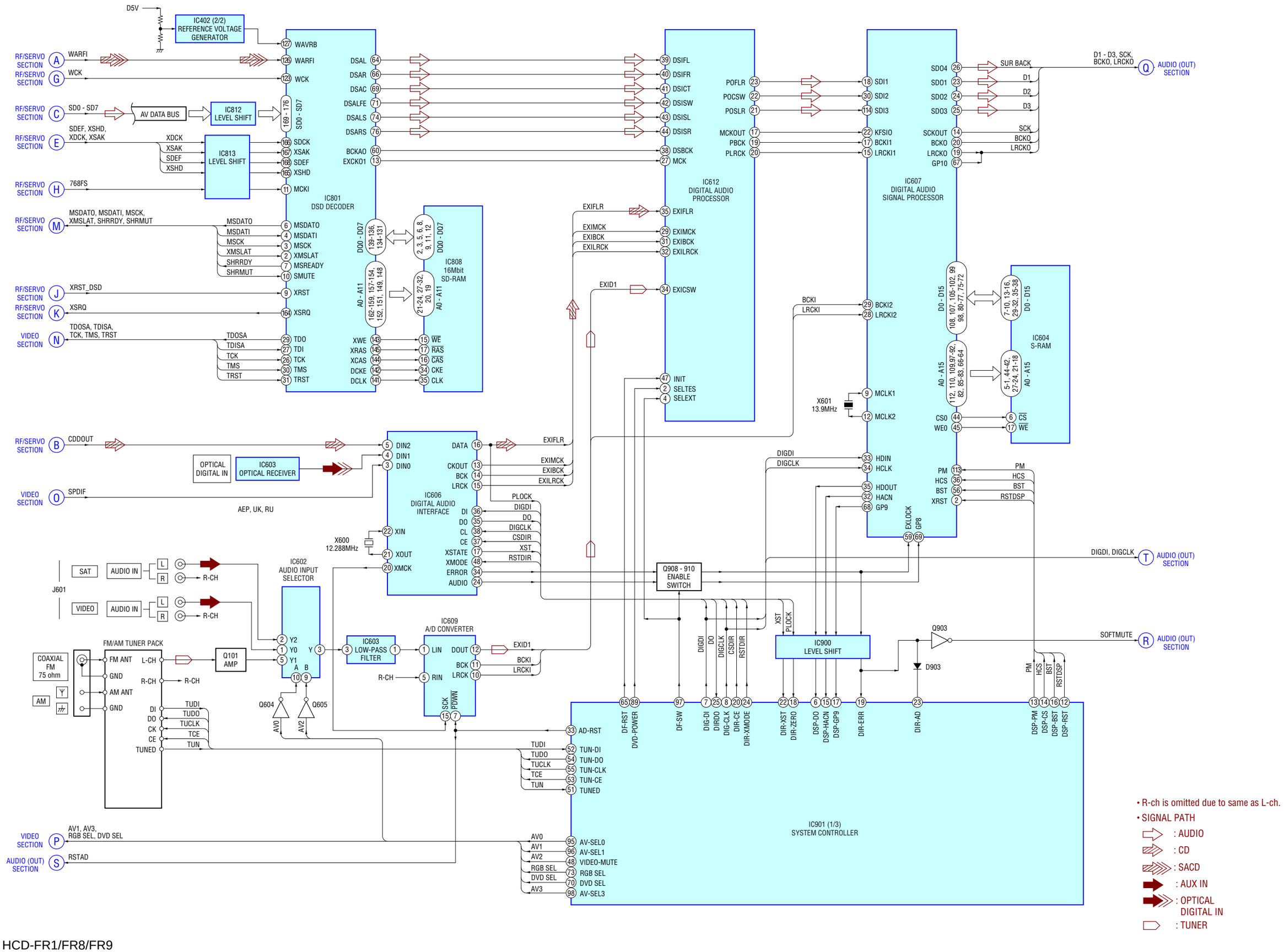


(Fig. 3)

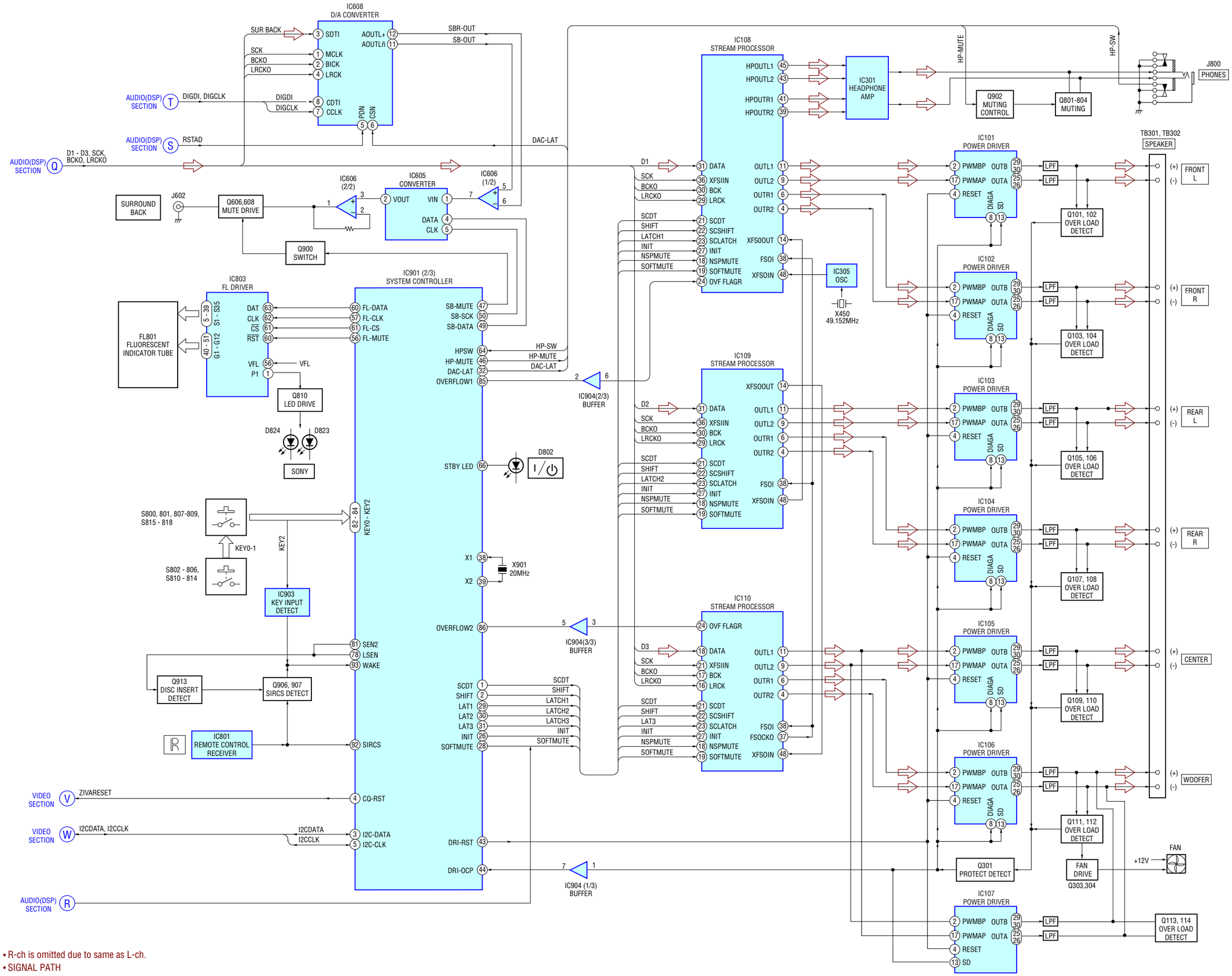
3-1. BLOCK DIAGRAM — RF/SERVO SECTION —



3-2. BLOCK DIAGRAM — AUDIO (DSP) SECTION —

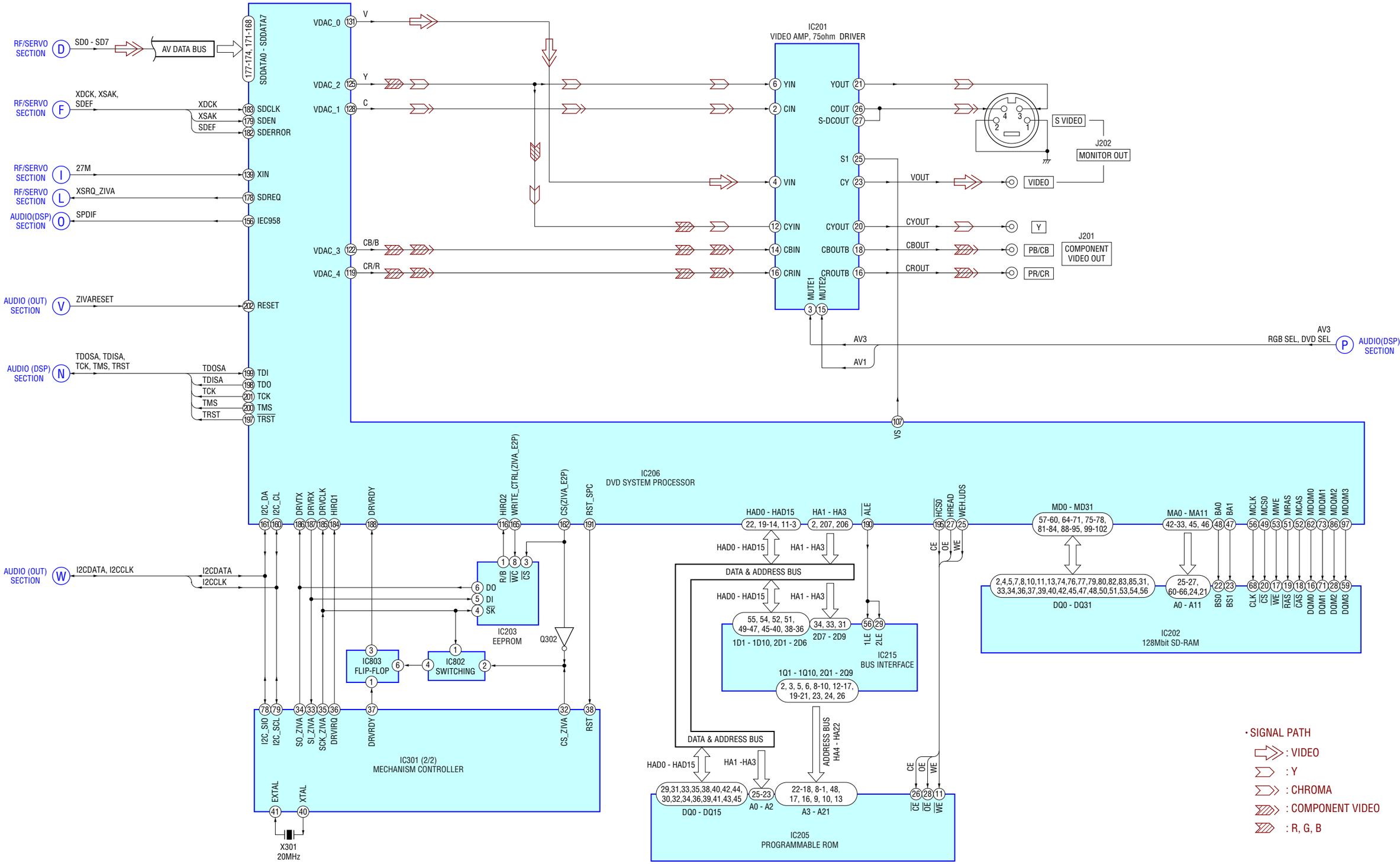


3-3. BLOCK DIAGRAM — AUDIO (OUT) SECTION —

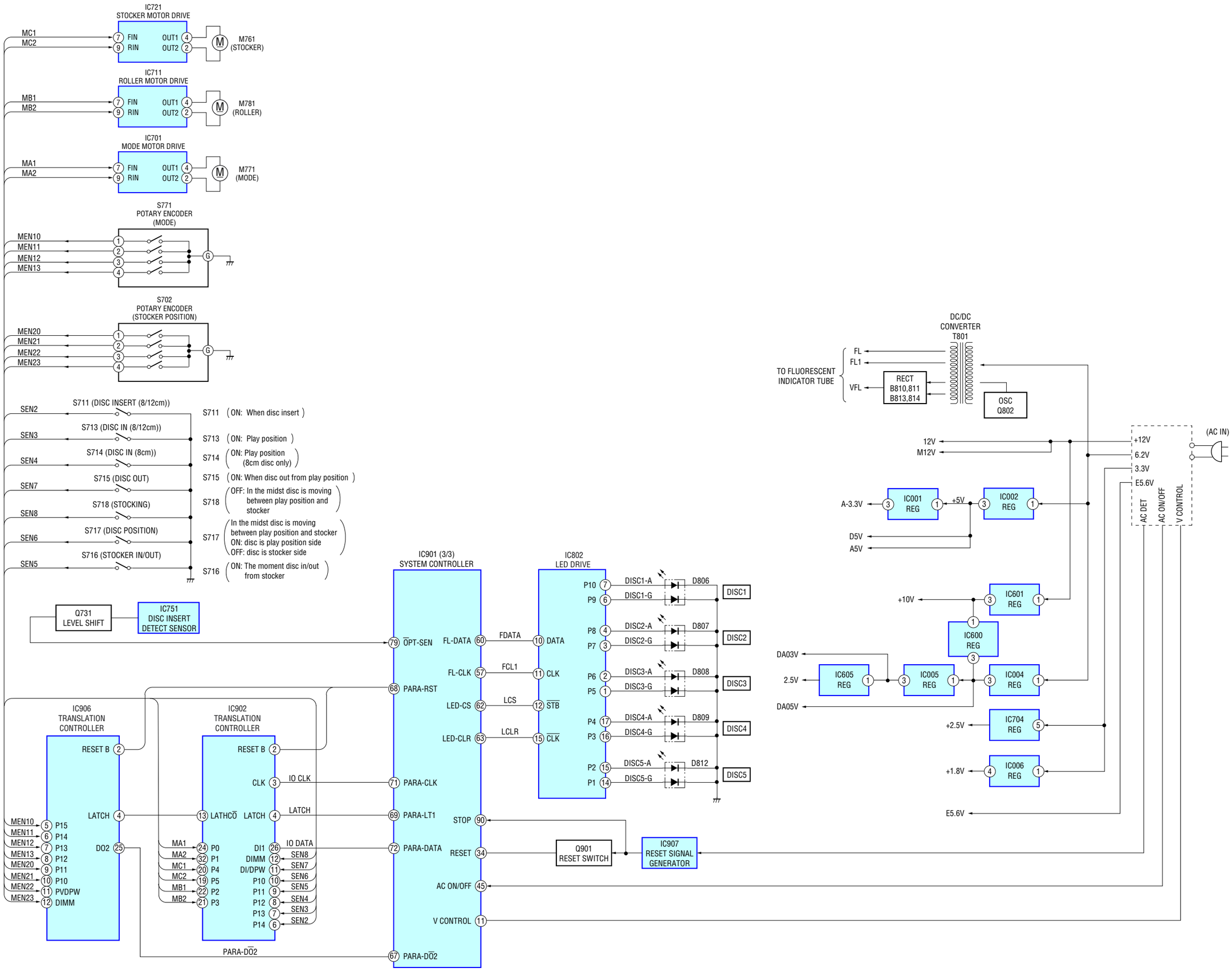


- R-ch is omitted due to same as L-ch.
- SIGNAL PATH
  : AUDIO

3-4. BLOCK DIAGRAM — VIDEO SECTION —



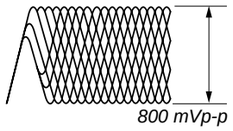
3-5. BLOCK DIAGRAM — POWER SECTION —



- **Waveforms**

– RF Board –

1 IC001 ① (DVDRFP)



200 mV/DIV, 100 ns/DIV

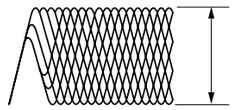
2 IC001 ㊴ (TE)

500 mV/DIV, 1 ms/DIV

3 IC001 ㊵ (FE)

100 mV/DIV, 1 ms/DIV

4 IC001 ㊼ (RFAC)



500 mV/DIV, 100 ns/DIV

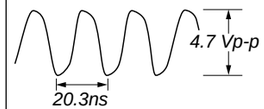
– DDCOM Board –

19 Q802 collector

10 V/DIV, 4 µs/DIV

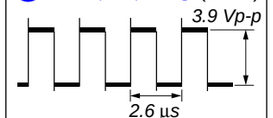
– AMP Board –

20 IC305 ④



1 V/DIV, 10 ns/DIV

21 IC108,109,110 ⑪ (OUTL1)

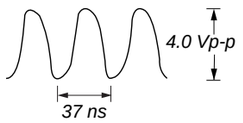


1 V/DIV, 1 µs/DIV

– DMB08 Board –

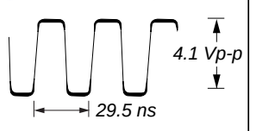
⑪ to ⑮ : color bars video signal

5 IC303 ⑧ (XTO)



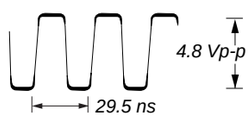
1 V/DIV, 10 ns/DIV

6 IC303 ⑨ (SO1)



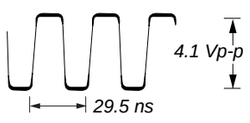
1 V/DIV, 10 ns/DIV

7 IC303 ⑩ (SO2)



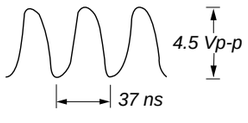
1 V/DIV, 10 ns/DIV

8 IC303 ⑬ (SO3)



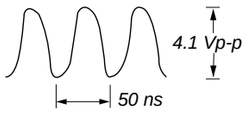
1 V/DIV, 10 ns/DIV

9 IC303 ③ (MO1)



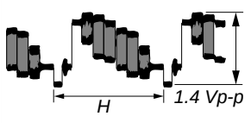
1 V/DIV, 10 ns/DIV

10 IC301 ㊵ (XTAL)



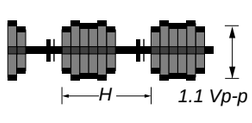
1 V/DIV, 20 ns/DIV

11 IC206 ⑬① (VDAC_0)



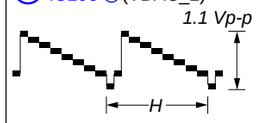
500 mV/DIV, 20 µs/DIV

12 IC206 ⑱ (VDAC_1)



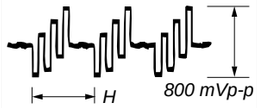
500 mV/DIV, 20 µs/DIV

13 IC206 ⑮ (VDAC_2)



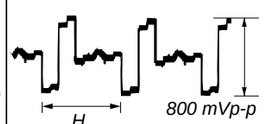
500 mV/DIV, 20 µs/DIV

14 IC206 ⑫ (VDAC_3)



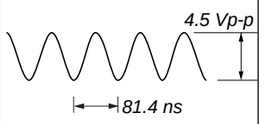
200 mV/DIV, 20 µs/DIV

15 IC206 ⑲ (VDAC_4)



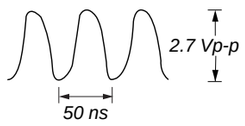
200 mV/DIV, 20 µs/DIV

16 IC606 ㉑ (XOUT)



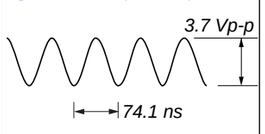
1 V/DIV, 40 ns/DIV

17 IC901 ㊳ (X2)



1 V/DIV, 20 ns/DIV

18 IC607 ⑫ (MCLK2)

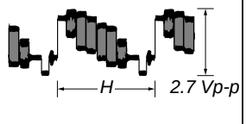


1 V/DIV, 40 ns/DIV

– IO Board –

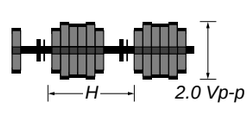
㉒ to ㉖ : color bars video signal

22 IC201 ㉓ (CVBS OUT)



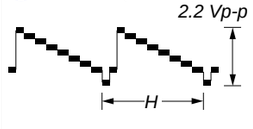
1 V/DIV, 20 µs/DIV

23 IC201 ㉖ (COUT)



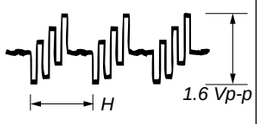
1 V/DIV, 20 µs/DIV

24 IC201 ⑳ (CYOUT)



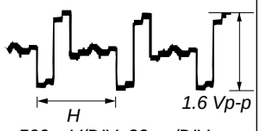
1 V/DIV, 20 µs/DIV

25 IC201 ⑱ (CbOUT)



500 mV/DIV, 20 µs/DIV

26 IC201 ⑯ (CrOUT)

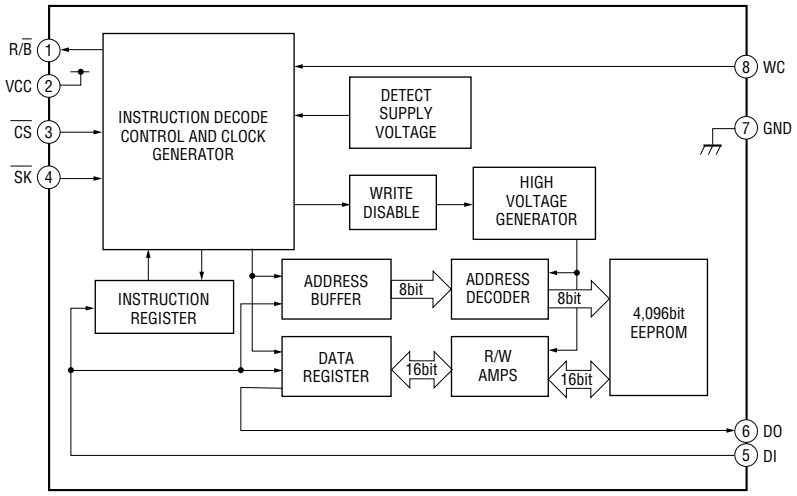


500 mV/DIV, 20 µs/DIV

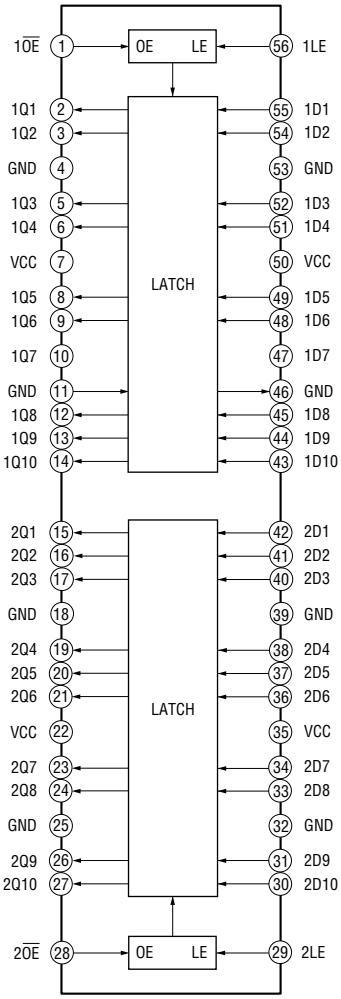
- **IC Block Diagrams**

– DMB08 Board –

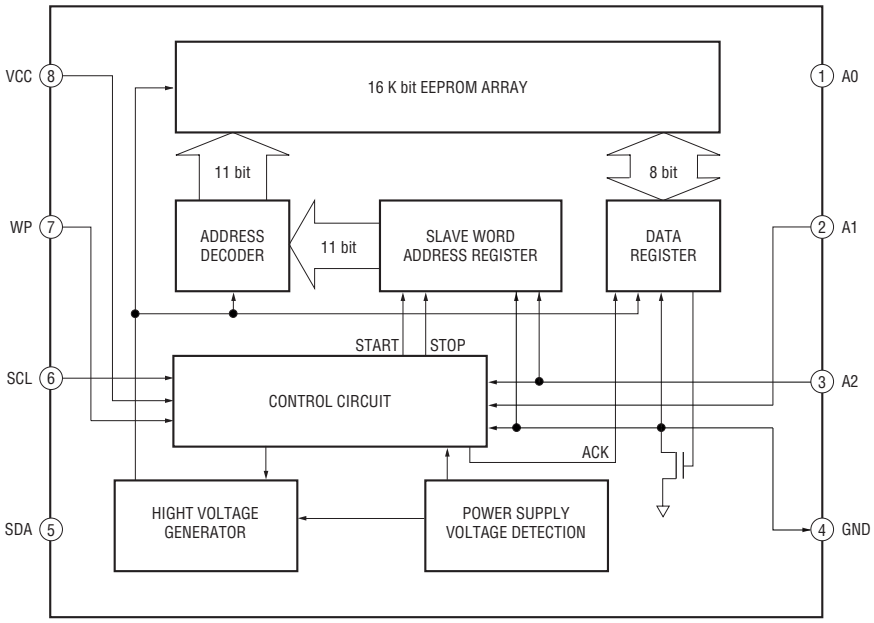
IC203 BR9040F-WE2



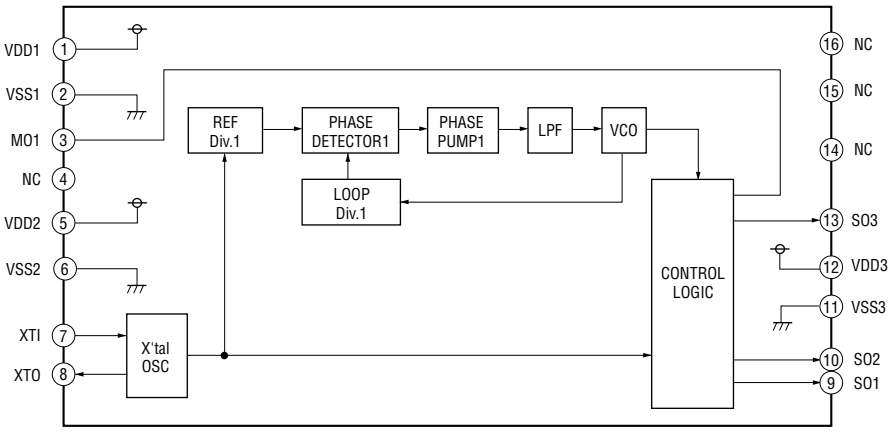
IC215 SN74ALVCH16841DGGR



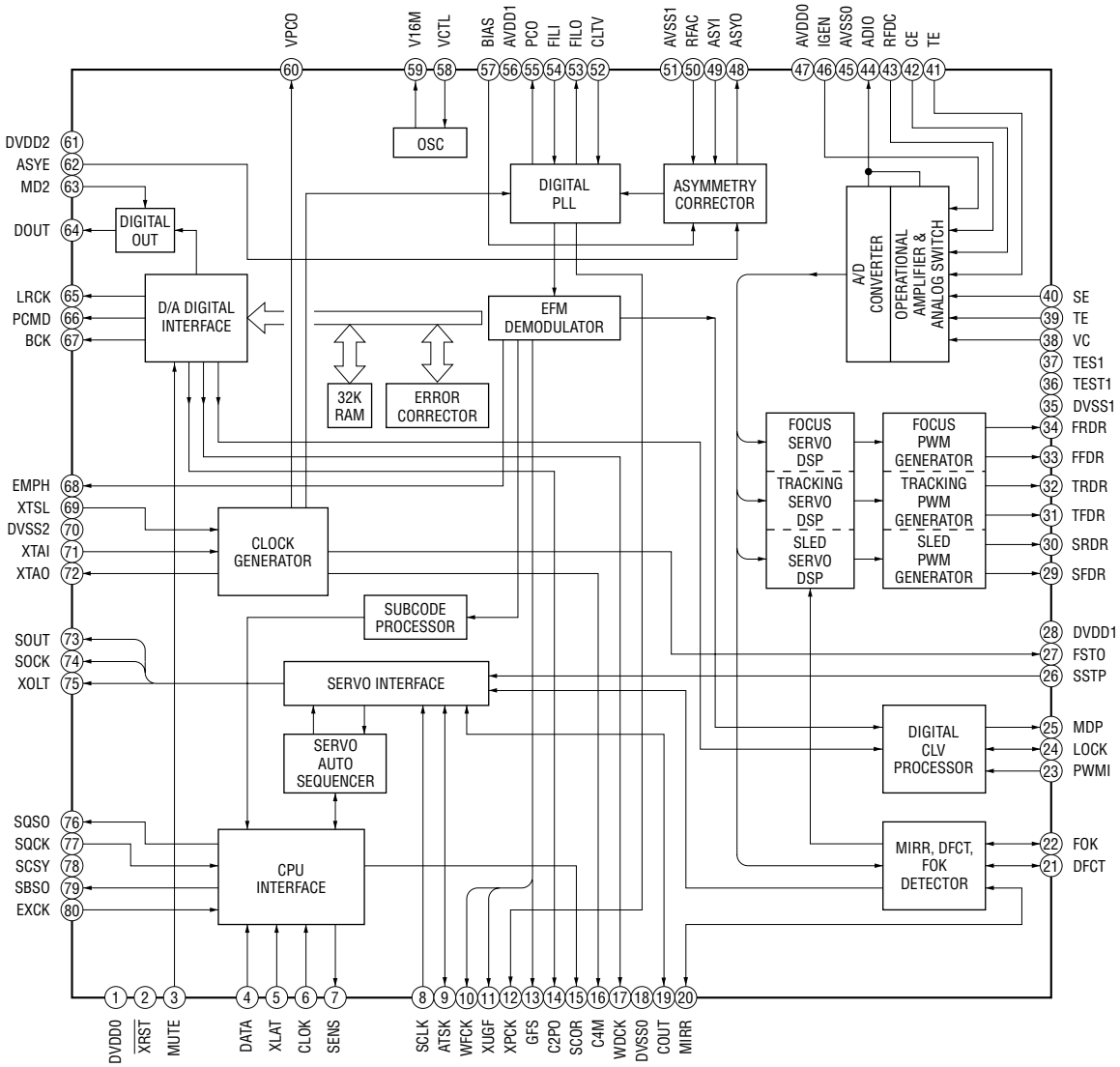
IC302 BR24L16F-WE2



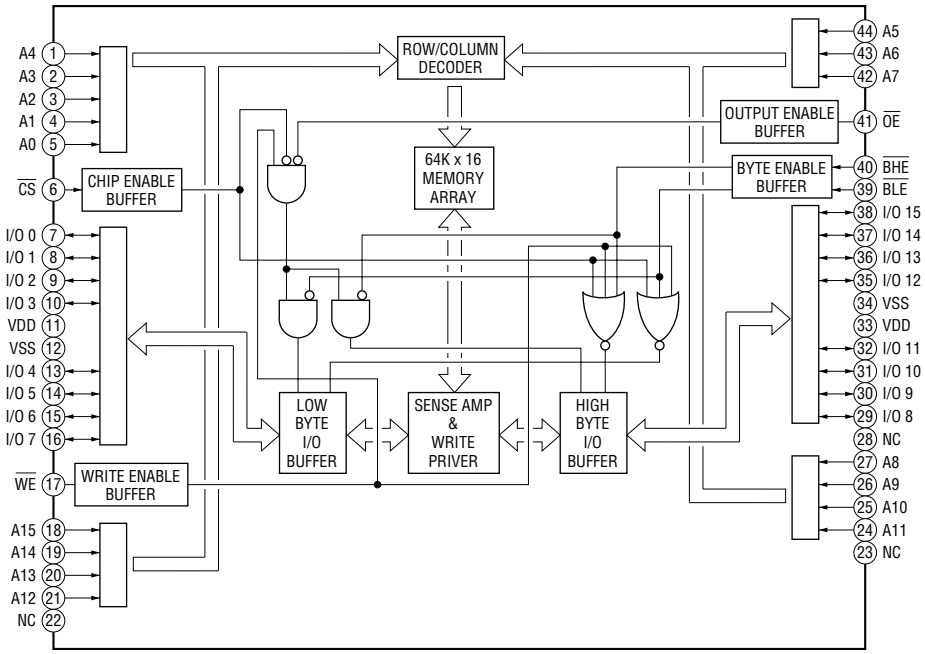
IC303 SM8707GV-G-E2



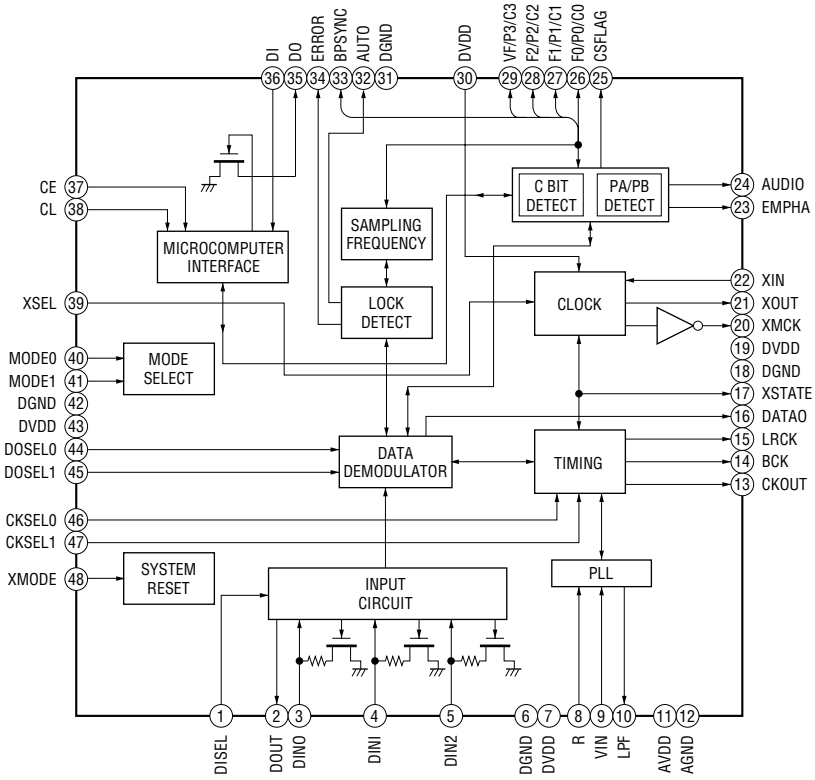
IC401 CXD3068Q



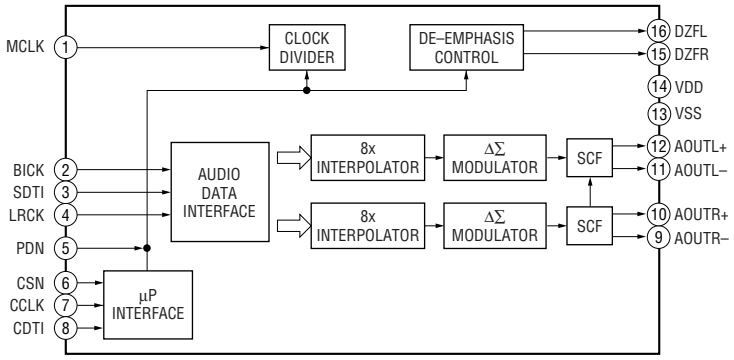
IC604 IS61LV6416-10TLT



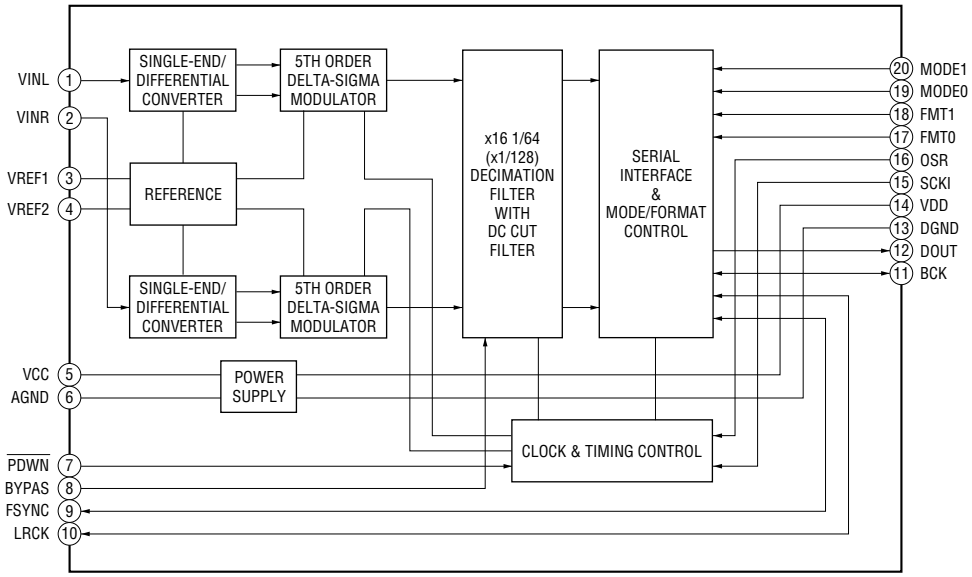
IC606 LC89056W-E



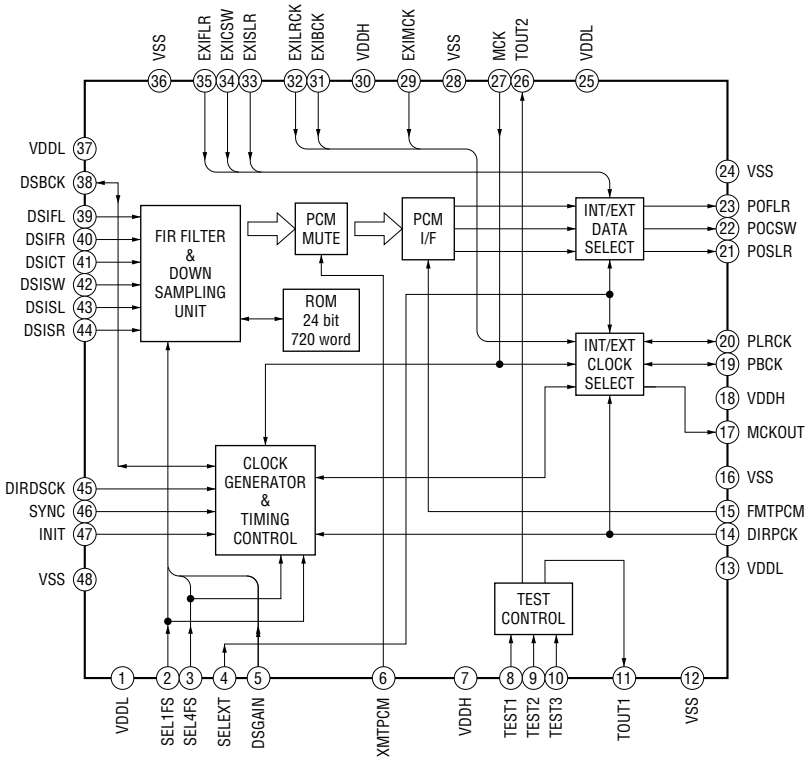
IC608 AK4381VT-E2



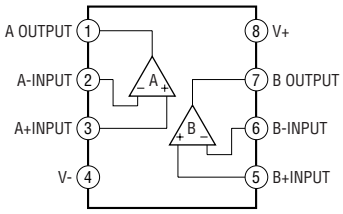
IC609 PCM1802DBR



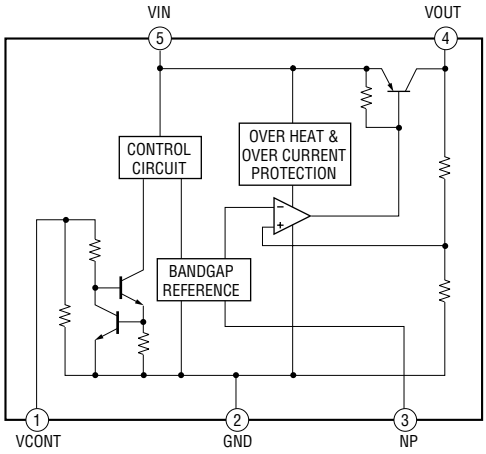
IC612 CXD9742Q



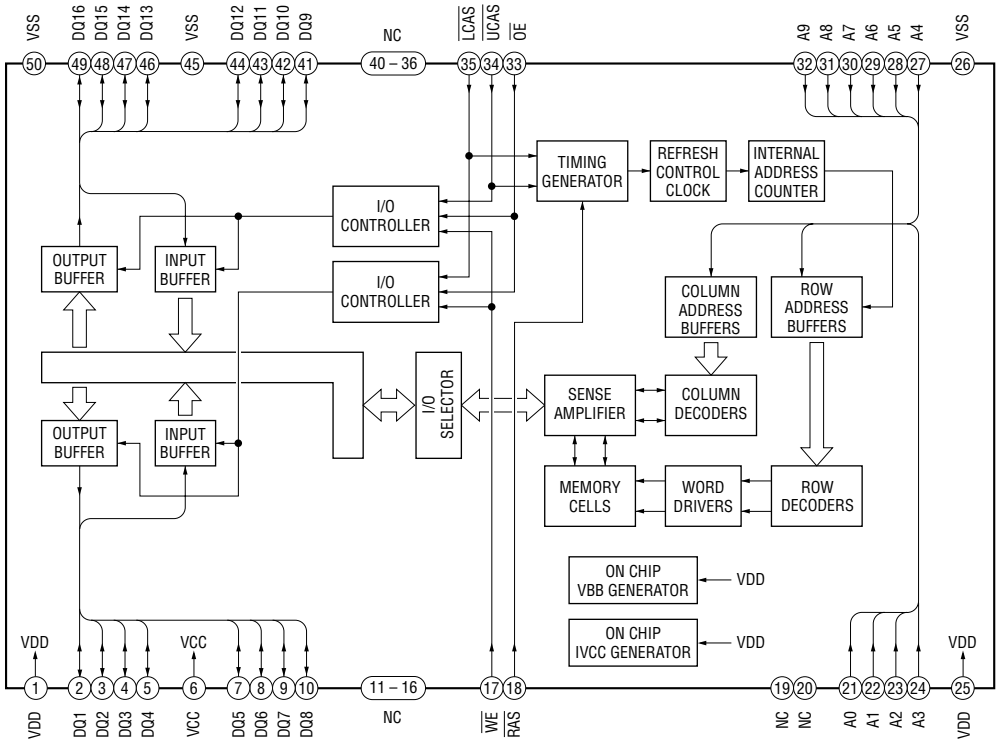
IC703 NJM3404AV (TE2)



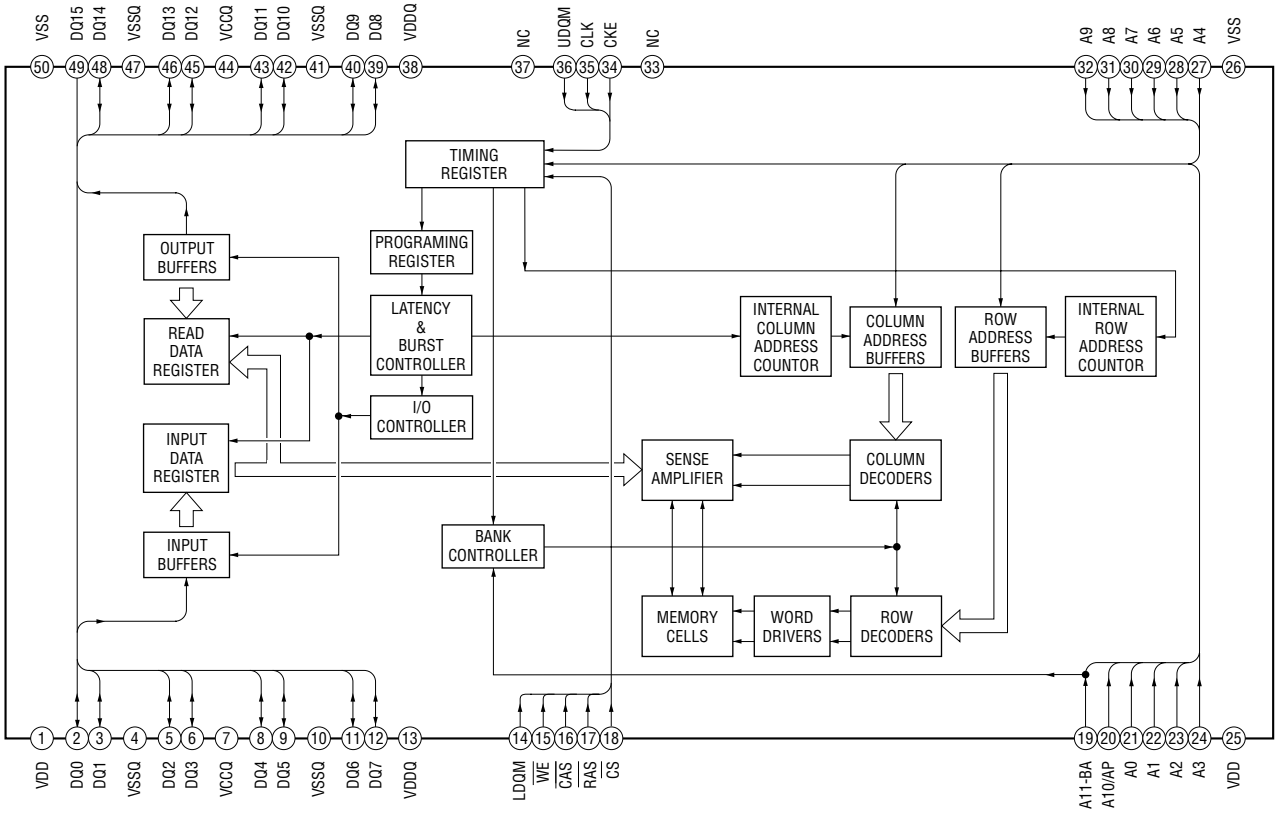
IC704 TK11125CSCL-G



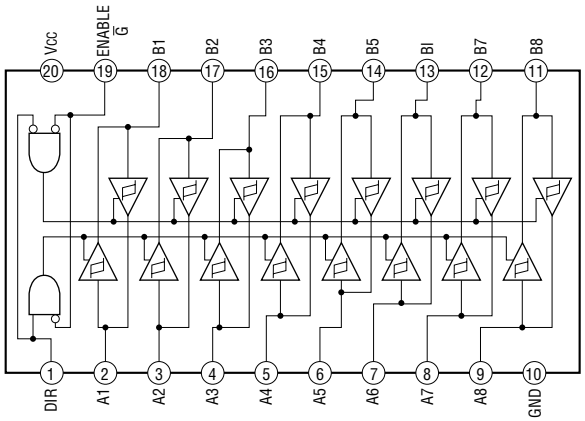
IC706 M51V18165M-60TS-KR1


VSS DQ16 DQ15 DQ14 DQ13 VSS DQ12 DQ11 DQ10 DQ9 NC LCAS UCAS OE A9 A8 A7 A6 A5 A4 VSS
50 49 48 47 46 45 44 43 42 41 40 – 36 35 34 33 32 31 30 29 28 27 26
TIMING GENERATOR
REFRESH CONTROL CLOCK
INTERNAL ADDRESS COUNTER
I/O CONTROLLER
I/O CONTROLLER
OUTPUT BUFFER
INPUT BUFFER
OUTPUT BUFFER
INPUT BUFFER
I/O SELECTOR
COLUMN ADDRESS BUFFERS
ROW ADDRESS BUFFERS
SENSE AMPLIFIER
COLUMN DECODERS
MEMORY CELLS
WORD DRIVERS
ROW DECODERS
ON CHIP VBB GENERATOR
VDD
ON CHIP IVCC GENERATOR
VDD
VDD VCC VDD
1 2 3 4 5 6 7 8 9 10 11 – 16 17 18 19 20 21 22 23 24 25
VDD DQ1 DQ2 DQ3 DQ4 VCC DQ5 DQ6 DQ7 DQ8 NC WE RAS NC NC A0 A1 A2 A3 VDD

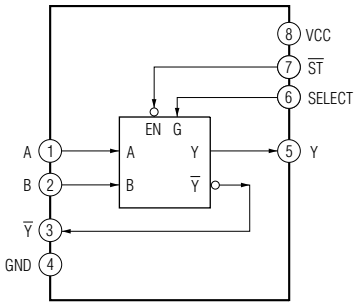
IC808 MSM56V16160F-8TK7R1


VSS DQ15 DQ14 VSSQ DQ13 DQ12 VCCQ DQ11 DQ10 VSSQ DQ9 DQ8 VDDQ NC UDQM CLK CKE NC A9 A8 A7 A6 A5 A4 VSS
50 49 48 47 46 45 44 43 42 41 40 39 38 37 36 35 34 33 32 31 30 29 28 27 26
TIMING REGISTER
OUTPUT BUFFERS
PROGRAMING REGISTER
LATENCY & BURST CONTROLLER
READ DATA REGISTER
I/O CONTROLLER
INPUT DATA REGISTER
INPUT BUFFERS
BANK CONTROLLER
INTERNAL COLUMN ADDRESS COUNTOR
COLUMN ADDRESS BUFFERS
ROW ADDRESS BUFFERS
INTERNAL ROW ADDRESS COUNTOR
SENSE AMPLIFIER
COLUMN DECODERS
MEMORY CELLS
WORD DRIVERS
ROW DECODERS
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25
VDD DQ0 DQ1 VSSQ DQ2 DQ3 VCCQ DQ4 DQ5 VSSQ DQ6 DQ7 VDDQ LDQM WE CAS RAS CS A11-BA A10/AP A0 A1 A2 A3 VDD

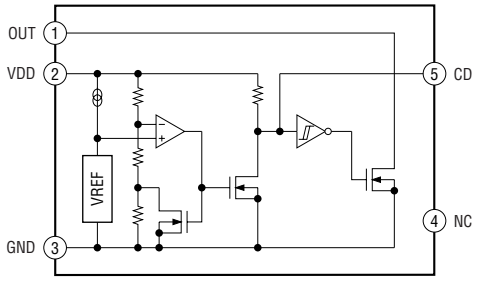
IC812, 813 SN74LV245APWR



IC814 TC7WH157FK (TE85R)

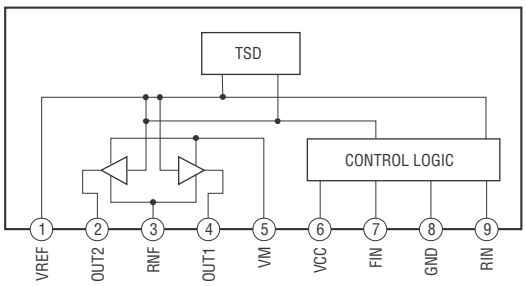


IC907 PST3645NR



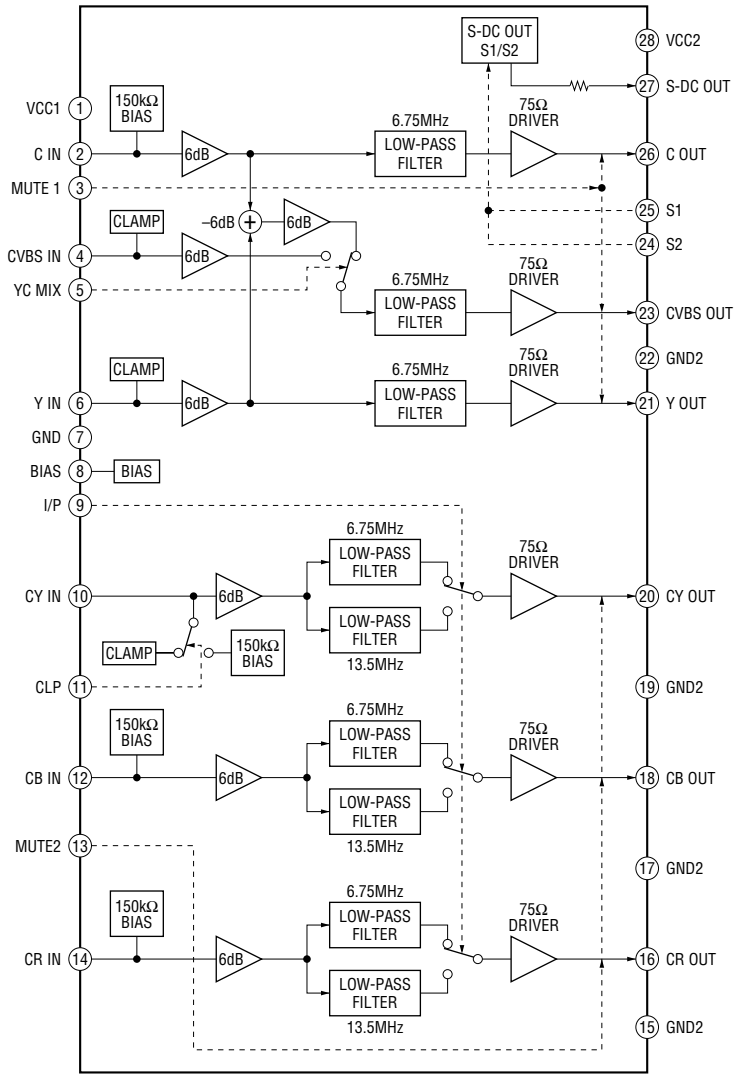
– RELAY Board –

IC701, 711, 721 BA6956AN

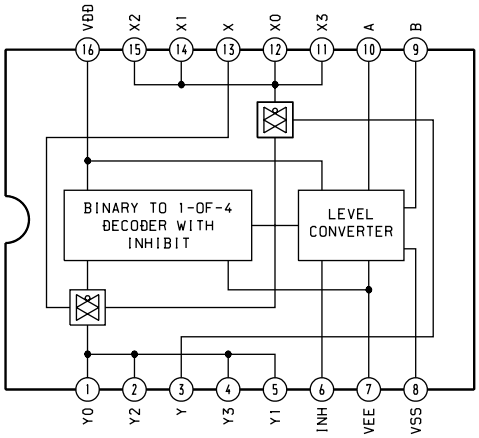


– IO Board –

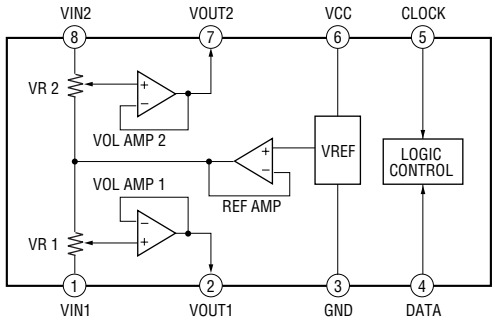
IC201 MM1623BFBE



IC602 MC14052 BDR2

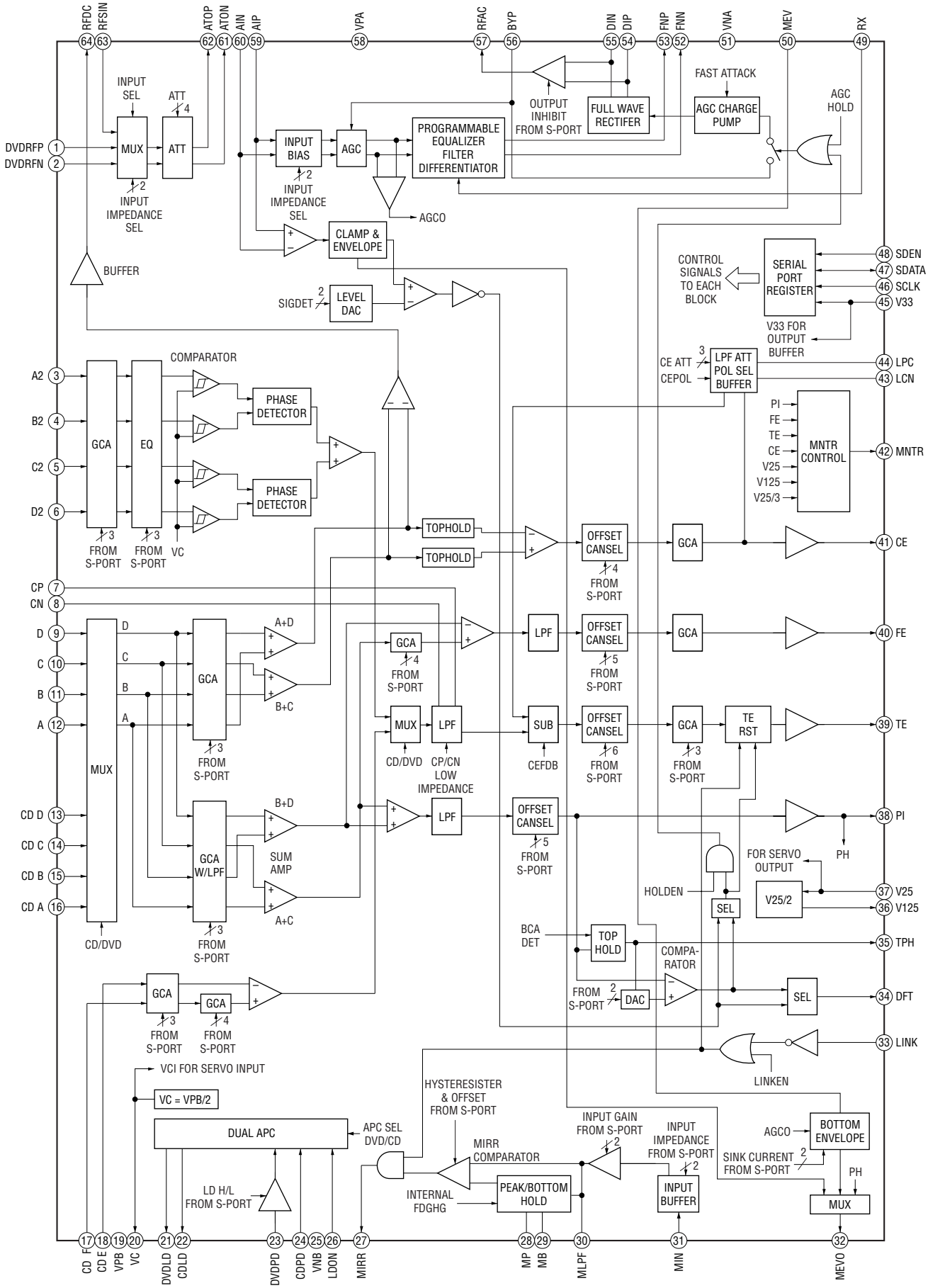


IC605 M62429FP-TP



– RF Board –

IC001 SP3723CAF0PM



• **IC Pin Function Description**

DMB08 BOARD IC206 ZIVA5X-C2F (DVD SYSTEM PROCESSOR)

Pin No.	Pin Name	I/O	Description
1	VDDP	—	Power supply terminal (+3.3V) (I/O signal)
2	HA1	I/O	Address bus
3	HD15	I/O	Data bus (address signal multiplexed)
4	HD14	I/O	Data bus (address signal multiplexed)
5	HD13	I/O	Data bus (address signal multiplexed)
6	HD12	I/O	Data bus (address signal multiplexed)
7	HD11	I/O	Data bus (address signal multiplexed)
8	HD10	I/O	Data bus (address signal multiplexed)
9	HD9	I/O	Data bus (address signal multiplexed)
10	HD8	I/O	Data bus (address signal multiplexed)
11	HD7	I/O	Data bus (address signal multiplexed)
12	VDDP	—	Power supply terminal (+3.3V) (I/O signal)
13	GNDP	—	Ground terminal (I/O signal)
14	HD6	I/O	Data bus (address signal multiplexed)
15	HD5	I/O	Data bus (address signal multiplexed)
16	HD4	I/O	Data bus (address signal multiplexed)
17	HD3	I/O	Data bus (address signal multiplexed)
18	HD2	I/O	Data bus (address signal multiplexed)
19	HD1	I/O	Data bus (address signal multiplexed)
20	VDDP	—	Power supply terminal (+3.3V) (I/O signal)
21	GNDP	—	Ground terminal (I/O signal)
22	HD0	I/O	Data bus (address signal multiplexed)
23	HDTACK	I/O	Acknowledge signal input/output for host data transfer (not used)
24	HIRQ0	I	Interrupt signal input for Medusa (not used)
25	WEH.UDS	I/O	Host upper data strobe signal output
26	WEL.LDS	I/O	Host lower data strobe signal output (not used)
27	HREAD	I/O	Read/write strobe signal output
28	GPIO0	I/O	Jig detection port (pull-up)
29	GND	—	Ground terminal (inside core)
30	VDD	—	Power supply terminal (+1.8V) (inside core)
31	GND25	—	Ground terminal (SDRAM I/O signal)
32	VDD25	—	Power supply terminal (+3.3V) (SDRAM I/O signal)
33	MA9	O	SDRAM address bus
34	MA8	O	SDRAM address bus
35	MA7	O	SDRAM address bus
36	MA6	O	SDRAM address bus
37	MA5	O	SDRAM address bus
38	MA4	O	SDRAM address bus
39	MA3	O	SDRAM address bus
40	MA2	O	SDRAM address bus
41	MA1	O	SDRAM address bus
42	MA0	O	SDRAM address bus
43	GND25	—	Ground terminal (SDRAM I/O signal)
44	VDD25	—	Power supply terminal (+3.3V) (SDRAM I/O signal)
45	MA10	O	SDRAM address bus
46	MA11	O	SDRAM address bus
47	BA1	O	SDRAM bank select 1 signal output

Pin No.	Pin Name	I/O	Description
48	BA0	O	SDRAM bank select 0 signal output
49	MCS0	O	SDRAM chip select 0 signal output
50	MCS1	O	Not used
51	MRAS	O	SDRAM row address strobe signal output
52	MCAS	O	SDRAM column address strobe signal output
53	MWE	O	SDRAM write enable signal output (“H” : read, “L” : write)
54	GND25	—	Ground terminal (SDRAM I/O signal)
55	VDD25	—	Power supply terminal (+3.3V) (SDRAM I/O signal)
56	MCLK	O	SDRAM Clock output
57	MD0	I/O	SDRAM data
58	MD1	I/O	SDRAM data
59	MD2	I/O	SDRAM data
60	MD3	I/O	SDRAM data
61	GND25	—	Ground terminal (SDRAM I/O signal)
62	MDQM0	O	Byte read /write mask signal 0 output
63	VDD25	—	Power supply terminal (+3.3V) (SDRAM I/O signal)
64	MD4	I/O	SDRAM data
65	MD5	I/O	SDRAM data
66	MD6	I/O	SDRAM data
67	MD7	I/O	SDRAM data
68	MD8	I/O	SDRAM data
69	MD9	I/O	SDRAM data
70	MD10	I/O	SDRAM data
71	MD11	I/O	SDRAM data
72	GND25	—	Ground terminal (SDRAM I/O signal)
73	MDQM1	O	Byte read /write mask signal 1 output
74	VDD25	—	Power supply terminal (+3.3V) (SDRAM I/O signal)
75	MD12	I/O	SDRAM data
76	MD13	I/O	SDRAM data
77	MD14	I/O	SDRAM data
78	MD15	I/O	SDRAM data
79	GND	—	Ground terminal (inside core)
80	VDD	—	Power supply terminal (+1.8V) (inside core)
81	MD16	I/O	SDRAM data
82	MD17	I/O	SDRAM data
83	MD18	I/O	SDRAM data
84	MD19	I/O	SDRAM data
85	GND25	—	Ground terminal (SDRAM I/O signal)
86	MDQM2	O	Byte read /write mask signal 2 output
87	VDD25	—	Power supply terminal (+3.3V) (SDRAM I/O signal)
88	MD20	I/O	SDRAM data
89	MD21	I/O	SDRAM data
90	MD22	I/O	SDRAM data
91	MD23	I/O	SDRAM data
92	MD24	I/O	SDRAM data
93	MD25	I/O	SDRAM data
94	MD26	I/O	SDRAM data

Pin No.	Pin Name	I/O	Description
95	MD27	I/O	SDRAM data
96	GND25	—	Ground terminal (SDRAM I/O signal)
97	MDQM3	O	Byte read /write mask signal 3 output
98	VDD25	—	Power supply terminal (+3.3V) (SDRAM I/O signal)
99	MD28	I/O	SDRAM data
100	MD29	I/O	SDRAM data
101	MD30	I/O	SDRAM data
102	MD31	I/O	SDRAM data
103	GND25	—	Ground terminal (SDRAM I/O signal)
104	VDD25	—	Power supply terminal (+3.3V) (SDRAM I/O signal)
105	VCLK	I/O	System clock (not used)
106	I2C_CTRL	—	Not used
107	VS	O	S1 signal output
108	I/P SW	O	Progressive/interlace switch signal output (not used)
109	GPIO1 (5)	—	Not used
110	GPIO1 (4)	—	Not used
111	VDDP	—	Power supply terminal (+3.3V) (I/O signal)
112	GNDP	—	Ground terminal (I/O signal)
113	GPIO1 (3)	—	Not used
114	GPIO1 (2)	—	Not used
115	GPIO1 (1)	—	Not used
116	HIRQ2_	I	Busy signal input from the EEPROM (IC203)
117	VDAC_4B	—	Video DAC bias bit 4 (connected to the ground)
118	VDAC_VDD4	—	Power supply terminal (+3.3V) (Video DAC 4)
119	VDAC_4	O	VDAC output 4
120	VDAC_3B	—	Video DAC bias bit 3 (connected to the ground)
121	VDAC_VDD3	—	Power supply terminal (+3.3V) (Video DAC 3)
122	VDAC_3	O	VDAC output 3
123	VDAC_2B	—	Video DAC bias bit 2 (connected to the ground)
124	VDAC_VDD2	—	Power supply terminal (+3.3V) (Video DAC 2)
125	VDAC_2	O	VDAC output 2
126	VDAC_1B	—	Video DAC bias bit 1 (connected to the ground)
127	VDAC_VDD1	—	Power supply terminal (+3.3V) (Video DAC 1)
128	VDAC_1	O	VDAC output 1
129	VDAC_0B	—	Video DAC bias bit 0 (connected to the ground)
130	VDAC_VDD0	—	Power supply terminal (+3.3V) (Video DAC 0)
131	VDAC_0	O	VDAC output 0
132	VDAC_DVSS	—	Ground terminal (Video DAC digital system)
133	VDAC_DVDD	—	Power supply terminal (+3.3V) (Video DAC digital system)
134	VDAC_REFVDD	—	Power supply terminal (Video DAC reference)
135	VDAC_REF	I	Reference voltage input terminal(for Video DAC)
136	VDAC_REFVSS	—	Ground terminal (Video DAC reference)
137	XVSS	—	Ground terminal (crystal oscillator)
138	XOUT	O	Crystal oscillation signal output
139	XIN	I	Crystal oscillation signal input
140	XVDD	—	Power supply terminal (crystal oscillator)
141	AVSS2	—	Ground terminal (analog PLL)

Pin No.	Pin Name	I/O	Description
142	AVDD2	—	Power supply terminal (+3.3V) (analog PLL)
143	AVDD1	—	Power supply terminal (+3.3V) (analog PLL)
144	AVSS1	—	Ground terminal (analog PLL)
145	VDD	—	Power supply terminal (+1.8V) (inside core)
146	GND	—	Ground terminal (inside core)
147	XCK	O	Audio system clock output (not used)
148	LRCK	O	LRCK signal output for audio (not used)
149	BCK	O	BCK signal output for audio (not used)
150	GPIO4 (1)	—	Not used (pull-up)
151	GPIO4 (2)	—	Not used (pull-up)
152	VDDP	—	Power supply terminal (+3.3V) (I/O signal)
153	GNDP	—	Ground terminal (I/O signal)
154	GPIO4 (3)	—	Not used (pull-down)
155	GPIO4 (4)	—	Not used (pull-down)
156	IEC958	O	S/PDIF signal
157	DAI_DATA	I	Data input from ADC (not used)
158	DAI_BCK	I	BCK signal input from ADC (not used)
159	DAI_LRCK	I	LRCK signal input from ADC (not used)
160	I2C_CL	I/O	I2C clock bus
161	I2C_DA	I/O	I2C data bus
162	CS(ZIVA_E2P)	O	Chip select signal output to the EEPROM (IC203)
163	RXD1	I	Serial data input for check jig
164	TXD1	O	Serial data output for check jig
165	WRITE_CTRL(ZIVA_E2P)	O	Write control signal output to the EEPROM (IC203)
166	GNDP	—	Ground terminal (I/O signal)
167	VDDP	—	Power supply terminal (+3.3V) (I/O signal)
168	SDDATA7	I	SDBus data7 input
169	SDDATA6	I	SDBus data6 input
170	SDDATA5	I	SDBus data5 input
171	SDDATA4	I	SDBus data4 input
172	GND	—	Ground terminal (inside core)
173	VDD	—	Power supply terminal (+1.8V) (inside core)
174	SDDATA3	I	SDBus data3 input
175	SDDATA2	I	SDBus data2 input
176	SDDATA1	I	SDBus data1 input
177	SDDATA0	I	SDBus data0 input
178	SDREQ	O	SDBus data request signal output
179	SDEN	I	SDBus data enable signal input
180	GNDP	—	Ground terminal (I/O signal)
181	VDDP	—	Power supply terminal (+3.3V) (I/O signal)
182	SDERROR	I	SDBus data error signal input
183	SDCLK	I	SDBus data clock input
184	HIRQ1	I	Interrupt signal input from the mechanism controller (IC301)
185	DRVCLK	I	Serial data clock input from the mechanism controller (IC301)
186	DRVTX	I	Serial data input from the mechanism controller (IC301) and the EEPROM (IC203)
187	DRVRX	O	Serial data output to the mechanism controller (IC301) and the EEPROM (IC203)
188	DRVRDY	I	Ready signal input from the mechanism controller (IC301)

Pin No.	Pin Name	I/O	Description
189	VNW	—	Power supply for 5V tolerance voltage input
190	$\overline{\text{ALE}}$	O	Latch enable signal output for address data demux
191	RST_SPC	O	Reset signal output to the mechanism controller (IC301)
192	$\overline{\text{HCS3}}$	O	Not used
193	$\overline{\text{HCS2}}$	O	Chip select signal output for Medusa (not used)
194	$\overline{\text{HCS1}}$	I/O	Not used
195	$\overline{\text{HCS0}}$	O	Chip select signal output to the external ROM (IC205)
196	VDDP	—	Power supply terminal (+3.3V) (I/O signal)
197	$\overline{\text{TRST}}$	I	Reset signal input
198	TDO	O	Data output
199	TDI	I	Data input
200	TMS	I	TMS signal input
201	TCK	I	TCK signal input
202	RESET	I	ZIVA reset input
203	BUS CLK	I/O	Not used
204	GND	—	Ground terminal (inside core)
205	VDD	—	Power supply terminal (+1.8V) (inside core)
206	HA3	I/O	Address bus 3
207	HA2	I/O	Address bus 2
208	GNDP	—	Ground terminal (I/O signal)

DMB08 BOARD IC301 CXP973064-245R (MECHANISH CONTROLLER)

Pin No.	Pin Name	I/O	Description
1	EEP SO	O	Not used
2	SDEN	O	Serial data enable signal output to DVD/CD RF amplifier
3	DOCTRL/ISBTEST	O	Digital out on/off control signal output to the digital signal processor "L": digital out off, "H": digital out on
4	XRST DSD	O	Reset signal output to the DSD decoder "L": reset
5	EEP SI	I/O	Two-way data bus with the EEPROM
6	EEP RDY	I	EEPROM ready signal input from the DVD decoder
7	FCS JMP 1	O	Focus jump 1 signal output to the motor/coil driver
8	FCS JMP 2	O	Focus jump 2 signal output to the motor/coil driver
9	SENS CD	I	Internal status (SENSE) signal input from the digital signal processor
10	CDSP2	O	Clock selection signal output to the digital signal processor
11	CDSP4	—	Not used
12	XCS DVD	O	Chip select signal output to the DVD decoder
13	VSS	—	Ground terminal (digital system)
14 to 21	D0 to D7	I/O	Two-way data bus with the DVD decoder
22	INIT0 DVD	I	Interrupt signal input from the DVD decoder
23	INIT1 DVD	I	Interrupt signal input from the DVD decoder
24	SCK DSD	O	Serial data transfer clock signal output to the DSD decoder
25	XRST DVD	O	Reset signal output to the DVD decoder "L": reset
26	SCOR	I	Subcode sync (S0+S1) detection signal input from the digital signal processor
27	LAT CD	O	Serial data latch pulse signal output to the digital signal processor
28	LD ON	O	Laser diode on/off control signal output to the DVD/CD RF amplifier "L": laser diode off, "H": laser diode on
29	MIRR	I	Mirror signal input from the digital signal processor
30	COUT CD	I	Numbers of track counted signal input from the digital signal processor
31	INLIM	I	Detection signal input from limit in switch The optical pick-up is inner position when "H"
32	CS ZIVA	O	Chip select signal output to the DVD system processor
33	SI ZIVA	I	Serial data input from the DVD system processor
34	SO ZIVA	O	Serial data output to the DVD system processor
35	SCK ZIVA	O	Serial data transfer clock signal output to the DVD system processor
36	DRVIRQ	O	Interrupt request signal output to the DVD system processor
37	DRVRDY	O	Ready signal output to the DVD system processor
38	RST	I	System reset signal input from the DVD system processor "L": reset
39	VSS	—	Ground terminal (digital system)
40	XTAL	I	System clock input terminal (20 MHz)
41	EXTAL	O	System clock output terminal (20 MHz)
42	VDD	—	Power supply terminal (+3.3V) (digital system)
43, 44	SLED A, SLED B	O	Sled motor drive signal output
45	JIT OFFSET	O	Output terminal for offset adjustment of APEO (⑩⑨pin of DVD decoder)
46	SDOUT DSD	O	Serial data output to the DSD decoder
47	SDIN DSD	I	Serial data input from the DSD decoder
48	READY DSD	I	Ready signal input from the DSD decoder "L": ready
49	DATA CD	O	Serial data output to the digital signal processor
50	CLOK CD	O	Serial data transfer clock signal output to the digital signal processor
51	XMSLAT	O	Serial data latch pulse signal output to the DSD decoder
52	SQSO	I	Subcode Q data input from the digital signal processor

Pin No.	Pin Name	I/O	Description
53	MUTE DSD	O	Muting on/off control signal output to the DSD decoder "H": muting on
54	SQCK	O	Subcode Q data reading clock signal output to the digital signal processor
55	VSS	—	Ground terminal (digital system)
56	TRAY IN	I	Disc tray in detection signal input terminal Not used
57	TRAY OUT	I	Disc tray out detection signal input terminal Not used
58	GFS DVD	I	Guard frame sync signal input from the DVD decoder
59	MUTE CD	O	Muting on/off control signal output to the digital signal processor "H": muting on
60	MUTE 2D	O	Muting on/off control signal output to the motor/coil driver "H": muting on
61	SLED	I	Sled motor servo drive PWM signal input terminal
62	FG	I	Spindle motor control signal input
63	SP ON	O	Muting on/off control signal output to the motor/coil driver "H": muting on
64	JIT	I	Jitter signal input
65	TE	I	Tracking error signal input from the DVD/CD RF amplifier
66	PI	I	Pull in signal input from the DVD/CD RF amplifier
67	FE	I	Focus error signal input from the DVD/CD RF amplifier
68	AVSS	—	Ground terminal (for A/D converter)
69	AVREF	I	Reference voltage input terminal (for A/D converter)
70	AVDD	—	Power supply terminal (+3.3V) (for A/D converter)
71	GFS CD	I	Guard frame sync signal input from the digital signal processor
72	SCLK CD	O	SENSE serial data reading clock signal output to the digital signal processor
73	TSD-M	O	Thermal shut down signal output to the motor/coil driver
74	FOK CD	I	Focus OK signal input from the digital signal processor
75	LOCK CD	I	GFS is sampled by 460 Hz "H" input when GFS is "H"
76	LDSEL	O	Laser diode selection signal output
77	SACD/$\overline{\text{DVD}}$	O	SACD/DVD selection signal output "L": DVD, "H": SACD
78	I2C SIO	I/O	Communication data bus with the DVD system processor and system controller
79	IIC-CLK	I/O	Communication data reading clock signal input or transfer clock signal output with the DVD system processor and system controller
80	RXD	I	Serial data input from the RS-232C (for check)
81	TXD	O	Serial data output to the RS-232C (for check)
82	SDCLK RF	O	Serial data transfer clock signal output to the DVD/CD RF amplifier
83	SDATA RF	I/O	Two-way data bus with the DVD/CD RF amplifier
84	XWR	O	Write strobe signal output to the DVD decoder
85	XRD	O	Read strobe signal output to the DVD decoder
86	(PWE)	—	Not used
87	VDD	—	Power supply terminal (+3.3V) (digital system)
88	VSS	—	Ground terminal (digital system)
89 to 96	A0 to A7	O	Address signal output to the DVD decoder
97	A8	O	Motor/coil driver power save control signal output terminal Not used
98	XDRST	O	Reset signal output to the digital signal processor "L": reset
99	EEP WP	O	Write protect signal output to the EEPROM
100	EEP CLK	I	Clock signal output to the EEPROM

DMB08 BOARD IC401 CXD3068Q (DIGITAL SIGNAL PROCESSOR, DIGITAL SERVO PROCESSOR)

Pin No.	Pin Name	I/O	Description
1	DVDD0	—	Power supply terminal (+3.3V) (digital system)
2	XRST	I	Reset signal input from the mechanism controller "L": reset
3	MUTE	I	Muting on/off control signal input from the mechanism controller "H": muting on
4	DATA	I	Serial data input from the mechanism controller
5	XLAT	I	Serial data latch pulse signal input from the mechanism controller
6	CLOK	I	Serial data transfer clock signal input from the mechanism controller
7	SENS	O	Internal status (SENSE) signal output to the mechanism controller
8	SCLK	I	SENSE serial data reading clock signal input from the mechanism controller
9	ATSK	I/O	Input/output terminal for anti-shock Not used
10	WFCK	O	Write frame clock signal output to the DVD decoder
11	RFCK	O	RFCK signal output terminal Not used
12	XPCK	O	XPCK signal output terminal Not used
13	GFS	O	Guard frame sync signal output to the mechanism controller
14	C2PO	O	C2 pointer signal output to the DVD decoder
15	SCOR	O	Subcode sync (S0+S1) detection signal output to the DVD decoder and mechanism controller
16	C4M	O	4.2336 MHz clock signal output terminal Not used
17	WDCK	O	Guard subcode sync (S0+S1) detection signal output to the DVD decoder
18	DVSS0	—	Ground terminal (digital system)
19	COUT	O	Numbers of track counted signal output to the mechanism controller
20	MIRR	O	Mirror signal output to the mechanism controller
21	DFCT	I/O	Defect signal input/output terminal Not used
22	FOK	O	Focus OK signal output to the mechanism controller
23	PWMI	I	Spindle motor external control signal input terminal Not used
24	LOCK	O	GFS is sampled by 460 Hz "H" output when GFS is "H"
25	MDP	O	Spindle motor servo drive signal output to the DVD decoder
26	SSTP	I	Detection signal input from limit in switch The optical pick-up is inner position when "H"
27	FSTO	O	2/3 divider output terminal Not used
28	DVDD1	—	Power supply terminal (+3.3V) (digital system)
29	SFDR	O	Sled servo drive PWM signal (+) output
30	SRDR	O	Sled servo drive PWM signal (–) output
31	TFDR	O	Tracking servo drive PWM signal (+) output
32	TRDR	O	Tracking servo drive PWM signal (–) output
33	FFDR	O	Focus servo drive PWM signal (+) output
34	FRDR	O	Focus servo drive PWM signal (–) output
35	DVSS1	—	Ground terminal (digital system)
36	TEST	I	Input terminal for the test
37	TES1	I	Input terminal for the test
38	VC	I	Middle point voltage (+1.65V) input terminal
39	FE	I	Focus error signal input from the DVD/CD RF amplifier
40	SE	I	Sled error signal input from the DVD/CD RF amplifier
41	TE	I	Tracking error signal input from the DVD/CD RF amplifier
42	CE	I	Middle point servo analog signal input
43	RFDC	I	RF signal input from the DVD/CD RF amplifier
44	ADIO	O	Output terminal for the test Not used
45	AVSS0	—	Ground terminal (analog system)

Pin No.	Pin Name	I/O	Description
46	IGEN	I	Stabilized current input for operational amplifiers
47	AVDD0	—	Power supply terminal (+3.3V) (analog system)
48	ASYO	O	EFM full-swing output terminal
49	ASYI	I	Asymmetry comparator voltage input terminal
50	RFAC	I	EFM signal input from the DVD/CD RF amplifier
51	AVSS1	—	Ground terminal (analog system)
52	CLTV	I	Internal VCO control voltage input terminal
53	FILO	O	Filter output for master PLL
54	FILI	I	Filter input for master PLL
55	PCO	O	Charge pump output for master PLL
56	AVDD1	—	Power supply terminal (+3.3V) (analog system)
57	BIAS	I	Asymmetry circuit constant current input terminal
58	VCTL	I	VCO control voltage input terminal for the wideband EFM PLL Not used
59	V16M	O	VCO oscillation output terminal for the wideband EFM PLL Not used
60	VPCO	O	Charge pump output terminal for the wideband EFM PLL Not used
61	DVDD2	—	Power supply terminal (+3.3V) (digital system)
62	ASYE	I	Asymmetry circuit on/off control signal input terminal “L”: off, “H”: on Not used
63	MD2	I	Digital out on/off control signal input from the mechanism controller “L”: digital out off, “H”: digital out on
64	DOUT	O	Digital audio signal output to the digital audio interface IC
65	LRCK	O	L/R sampling clock signal (44.1 kHz) output to the DVD decoder
66	PCMD	O	Serial data output to the DVD decoder
67	BCLK	O	Bit clock signal (2.8224 MHz) output to the DVD decoder
68	EMPH	O	“L” is output when playback disc is emphasis off “H” is output when playback disc is emphasis on Not used
69	XTSL	I	Input terminal for the system clock frequency setting “L”: 16.9344 MHz, “H”: 33.8688MHz
70	DVSS2	—	Ground terminal (digital system)
71	XTAI	I	System clock input terminal (33.8688 MHz)
72	XTAO	O	System clock output terminal (33.8688 MHz) Not used
73	SOUT	O	Serial data output terminal Not used
74	SOCK	O	Serial data reading clock signal output terminal Not used
75	XOLT	O	Serial data latch pulse signal output terminal Not used
76	SQSO	O	Subcode Q data output to the mechanism controller
77	SQCK	I	Subcode Q data reading clock signal input from the mechanism controller
78	SCSY	I	Input terminal for resynchronism of guard subcode sync (S0+S1) Not used
79	SBSO	O	Subcode serial data output to the DVD decoder
80	EXCK	I	Subcode serial data reading clock signal input to the DVD decoder

DMB08 BOARD IC607 CXD9718BQ (AUDIO DIGITAL SIGNAL PROCESSOR)

Pin No.	Pin Name	I/O	Description
1	VSS	—	Ground terminal
2	XRST	I	Reset signal input from the system controller "L": reset
3	EXTIN	I	Master clock signal input terminal Not used
4	FS2	I	Sampling frequency selection signal input terminal Not used
5	VDDI	—	Power supply terminal (+2.6V)
6	FS1	I	Sampling frequency selection signal input terminal Not used
7	PLOCK	O	Internal PLL lock signal output terminal Not used
8	VSS	—	Ground terminal
9	MCLK1	I	System clock signal input terminal (13.5 MHz)
10	VDDI	—	Power supply terminal (+2.6V)
11	VSS	—	Ground terminal
12	MCLK2	O	System clock signal output terminal (13.5 MHz)
13	MS	I	Master/slave selection signal input terminal "L": slave, "H": master (fixed at "L" in this set)
14	SCKOUT	O	Internal system clock signal output to the D/A converter and stream processor
15	LRCKI1	I	L/R sampling clock signal (44.1 kHz) input from the digital audio processor
16	VDDE	—	Power supply terminal (+3.3V)
17	BCKI1	I	Bit clock signal (2.8224 MHz) input from the digital audio processor
18	SDI1	I	Front L-ch and R-ch audio serial data input from the digital audio processor
19	LRCKO	O	L/R sampling clock signal (44.1 kHz) output to the D/A converter and stream processor
20	BCKO	O	Bit clock signal (2.8224 MHz) output to the D/A converter and stream processor
21	VSS	—	Ground terminal
22	KFSIO	I	Audio clock signal (11.2896 MHz) input from the digital audio processor
23	SDO1	O	Front L-ch and R-ch audio serial data output to the stream processor
24	SDO2	O	Center and woofer audio serial data output to the stream processor
25	SDO3	O	Rear L-ch and R-ch audio serial data output to the stream processor
26	SDO4	O	Audio serial data output to the D/A converter
27	SPDIF	O	S/PDIF signal output terminal Not used
28	LRCKI2	I	L/R sampling clock signal (44.1 kHz) input from the A/D converter
29	BCKI2	I	Bit clock signal (2.8224 MHz) input from the A/D converter
30	SDI2	I	Center and woofer audio serial data input from the digital audio processor
31	VSS	—	Ground terminal
32	HACN	O	Acknowledge signal output to the system controller
33	HDIN	I	Write data input from the system controller
34	HCLK	I	Clock signal input from the system controller
35	HDOUT	O	Read data output to the system controller
36	HCS	I	Chip select signal input from the system controller
37	SDCLK	O	Clock signal output terminal Not used
38	CLKEN	O	Clock enable signal output terminal Not used
39	RAS	O	Row address strobe signal output terminal Not used
40	VDDI	—	Power supply terminal (+2.6V)
41	VSS	—	Ground terminal
42	CAS	O	Column address strobe signal output terminal Not used
43	DQM/OE0	O	Output terminal of data input/output mask Not used
44	CS0	O	Chip select signal output to the S-RAM
45	WE0	O	Write enable signal output to the S-RAM

Pin No.	Pin Name	I/O	Description
46	VDDE	—	Power supply terminal (+3.3V)
47	WMD1	I	S-RAM wait mode setting terminal Fixed at “H” in this set
48	VSS	—	Ground terminal
49	WMD0	I	S-RAM wait mode setting terminal Fixed at “H” in this set
50	PAGE2	O	Page selection signal output terminal Not used
51	VSS	—	Ground terminal
52, 53	PAGE1, PAGE0	O	Page selection signal output terminal Not used
54	BOOT	I	Boot mode control signal input terminal Not used
55	BTACT	O	Boot mode state display signal output terminal Not used
56	BST	I	Boot strap signal input from the system controller
57	MOD1	I	PLL input frequency selection signal input terminal “L”: 384fs, “H”: 256fs (fixed at “H” in this set)
58	MOD0	I	Mode setting terminal “L”: single chip mode, “H”: use prohibition (fixed at “L” in this set)
59	EXLOCK	I	PLL lock error and data error flag input from the digital audio interface IC
60	VDDI	—	Power supply terminal (+2.6V)
61	VSS	—	Ground terminal
62, 63	A17, A16	O	Address signal output terminal Not used
64 to 66	A15 to A13	O	Address signal output to the S-RAM
67	GP10	O	L/R sampling clock signal (44.1 kHz) output to the D/A converter and stream processor
68	GP9	O	Decode signal output to the system controller
69	GP8	I	Bit 1 input terminal of channel status from the digital audio interface IC
70	VDDI	—	Power supply terminal (+2.6V)
71	VSS	—	Ground terminal
72 to 75	D15 to D12	I/O	Two-way data bus with the S-RAM
76	VDDE	—	Power supply terminal (+3.3V)
77 to 80	D11 to D8	I/O	Two-way data bus with the S-RAM
81	VSS	—	Ground terminal
82 to 85	A9, A12 to A10	O	Address signal output to the S-RAM
86	TDO	O	Simple emulation data output terminal Not used
87	TMS	I	Simple emulation data input start/end detection signal input terminal Not used
88	XTRST	I	Simple emulation asychronous break input terminal Not used
89	TCK	I	Simple emulation clock signal input terminal Not used
90	TDI	I	Simple emulation data input terminal Not used
91	VSS	—	Ground terminal
92 to 97	A8 to A3	O	Address signal output to the S-RAM
98, 99	D7, D6	I/O	Two-way data bus with the S-RAM
100	VDDI	—	Power supply terminal (+2.6V)
101	VSS	—	Ground terminal
102 to 105	D5 to D2	I/O	Two-way data bus with the S-RAM
106	VDDE	—	Power supply terminal (+3.3V)
107, 108	D1, D0	I/O	Two-way data bus with the S-RAM
109, 110	A2, A1	O	Address signal output to the S-RAM
111	VSS	—	Ground terminal
112	A0	O	Address signal output to the S-RAM
113	PM	I	PLL reset signal input from the system controller “L”: reset

Pin No.	Pin Name	I/O	Description
114	SDI3	I	Rear L-ch and R-ch audio serial data input from the digital audio processor
115	SDI4	I	Audio serial data input terminal Not used
116	SYNC	I	Synchronous/asychronous selection signal input terminal “L”: Synchronous, “H”: asynchronous (fixed at “H” in this set)
117 to 119	VSS	—	Ground terminal
120	VDDI	—	Power supply terminal (+2.6V)

DMB08 BOARD IC701 TMC57929PGF-RDP (DVD DECODER)

Pin No.	Pin Name	I/O	Description
1, 2	D5, D6	I/O	Two-way data bus with the mechanism controller
3	VSS	—	Ground terminal (digital system)
4	D7	I/O	Two-way data bus with the mechanism controller
5	A0	I	Address signal input from the mechanism controller
6	VDD	—	Power supply terminal (+3.3V) (digital system)
7	A1	I	Address signal input from the mechanism controller
8	VDD5V	—	Power supply terminal (+5V)
9 to 14	A2 to A7	I	Address signal input from the mechanism controller
15	VSS	—	Ground terminal (digital system)
16	XWAIT	O	Wait signal output terminal Not used
17	XRD	I	Read strobe signal input from the mechanism controller
18	XWR	I	Write strobe signal input from the mechanism controller
19	XCS	I	Chip select signal input from the mechanism controller
20, 21	XINT0, XINT1	O	Interrupt signal output to the mechanism controller
22	VDD	—	Power supply terminal (+3.3V) (digital system)
23	XHRS	I	Not used
24	HDB7	O	Stream data signal output to the DSD decoder and DVD system processor
25	VSS	—	Ground terminal (digital system)
26	HDB8	O	Error flag signal output to the DSD decoder and DVD system processor
27	HDB6	O	Stream data signal output to the DSD decoder and DVD system processor
28	VDDS	—	Power supply terminal (+5V) (digital system)
29	HDB9	O	Not used
30	HDB5	O	Stream data signal output to the DSD decoder and DVD system processor
31	HDBA	O	Not used
32	HDB4	O	Stream data signal output to the DSD decoder and DVD system processor
33	VSS	—	Ground terminal (digital system)
34	HDBB	O	Not used
35	HDB3	O	Stream data signal output to the DSD decoder and DVD system processor
36	VDD	—	Power supply terminal (+3.3V) (digital system)
37	HDBC	O	Not used
38	VDDS	—	Power supply terminal (+5V) (digital system)
39	HDB2	O	Stream data signal output to the DSD decoder and DVD system processor
40	HDBD	O	Not used
41	HDB1	O	Stream data signal output to the DSD decoder and DVD system processor
42	VSS	—	Ground terminal (digital system)
43	HDBE	O	Not used
44	HDB0	O	Stream data signal output to the DSD decoder and DVD system processor
45	HDBF	O	Not used
46	XDRQ	O	Serial data effect flag signal output to the DSD decoder and DVD system processor
47	VDDS	—	Power supply terminal (+5V) (digital system)
48	XHWR	O	Serial data transfer clock signal output to the DSD decoder and DVD system processor
49	XHRD	O	Header flag signal output to the DSD decoder
50	VDD	—	Power supply terminal (+3.3V) (digital system)
51	REDY	O	Not used
52	VSS	—	Ground terminal (digital system)

Pin No.	Pin Name	I/O	Description
53	XHAC	I	DVD mode: Serial data request signal input from the DVD system processor SACD mode: Serial data request signal input from the DSD decoder
54	HINT	O	Not used
55	XS16	O	Not used
56	HA1	I	Not used
57	XPDI	I/O	Not used
58	VDDS	—	Power supply terminal (+5V) (digital system)
59, 60	HA0, HA2	I	Not used
61	VSS	—	Ground terminal (digital system)
62, 63	HCS0, HCS1	I	Not used
64	VDD	—	Power supply terminal (+3.3V) (digital system)
65	DASP	I/O	Not used
66 to 69	MDB0 to MDB3	I/O	Two-way data bus with the D-RAM
70	VSS	—	Ground terminal (digital system)
71	MDB4	I/O	Two-way data bus with the D-RAM
72	VDD5V	—	Power supply terminal (+5V)
73 to 75	MDB5 to MDB7	I/O	Two-way data bus with the D-RAM
76	XMWR	O	Write enable signal output to the D-RAM
77	VDD	—	Power supply terminal (+3.3V) (digital system)
78	XRAS	O	Row address strobe signal output to the D-RAM
79, 80	MA0, MA1	O	Address signal output to the D-RAM
81	VSS	—	Ground terminal (digital system)
82 to 87	MA2 to MA7	O	Address signal output to the D-RAM
88	VDD	—	Power supply terminal (+3.3V) (digital system)
89	MA8	O	Address signal output to the D-RAM
90	VSS	—	Ground terminal (digital system)
91	MA9	O	Address signal output to the D-RAM
92	MNT1	O	EEPROM ready signal output to the mechanism controller
93	MNT2	O	Operation clock signal output for PSP physical disc mark detection to DSD decoder
94	XMOE	O	Output enable signal output to the D-RAM
95	XCAS	O	Column address strobe signal output to the D-RAM
96, 97	MDB8, MDB9	I/O	Two-way data bus with the D-RAM
98	VSS	—	Ground terminal (digital system)
99	MDBA	I/O	Two-way data bus with the D-RAM
100	VDD	—	Power supply terminal (+3.3V) (digital system)
101, 102	MDBB, MDBC	I/O	Two-way data bus with the D-RAM
103	VDD5V	—	Power supply terminal (+5V)
104 to 106	MDBD to MDBF	I/O	Two-way data bus with the D-RAM
107	GFS	O	Guard frame sync signal output to the mechanism controller
108	VSS	—	Ground terminal (digital system)
109	APEO	O	Absolute phase error signal output
110	VDD	—	Power supply terminal (+3.3V) (digital system)
111	DASYO	O	RF binary signal output
112	GNDA5	—	Ground terminal (analog system)
113, 114	ASF1, AFS2	—	Filter connected terminal for selection the constant asymmetry compensation
115	DASYI	I	Analog signal input after integrated from the RF binary signal

Pin No.	Pin Name	I/O	Description
116	RFDCC	I	Input terminal for adjusting DC cut high-pass filter for RF signal Not used
117	RFIN	I	RF signal input from the DVD/CD RF amplifier
118, 119	VCCA5, VCCA4	—	Power supply terminal (+3.3V) (analog system)
120	VCOR1	—	VCO oscillating range setting resistor connected terminal
121	VCOIN	I	VCO input terminal
122, 123	GNDA4, GNDA3	—	Ground terminal (analog system)
124	LPF5	O	Signal output from the operation amplifier from PLL loop filter
125	VC1	I	Middle point voltage (+1.65V) input terminal
126, 127	LPF2, LPF1	I	Inverted signal input to the operation amplifier from PLL loop filter
128, 129	VCCA3, VCCA2	—	Power supply terminal (+3.3V) (analog system)
130	PDO	O	Signal output from the charge pump for phase comparator
131	PDHVCC	I	Middle point voltage input terminal for RF PLL
132	FDO	O	Signal output from the charge pump for frequency comparator
133, 134	GNDA2, GNDA1	—	Ground terminal (analog system)
135	SPO	O	Spindle motor control signal output
136	VC2	I	Middle point voltage (+1.65V) input terminal
137	MDIN2	I	Spindle motor servo drive signal input
138	MDIN1	I	MDP input terminal
139	VCCA1	—	Power supply terminal (+3.3V) (analog system)
140	CLVS	O	Control signal output for selection the spindle control filter constant at CLVS
141	VSS	—	Ground terminal (digital system)
142	MDSOUT	O	Frequency error output terminal of internal CLV circuit
143	VDD	—	Power supply terminal (+3.3V) (digital system)
144	MDPOUT	O	Phase error output terminal of internal CLV circuit
145	DFCT	I	Defect signal input terminal Not used
146	GSCOR	I	Guard subcode sync (S0+S1) detection signal input from the digital signal processor
147	EXCK	O	Subcode serial data reading clock signal output to the digital signal processor
148	SBIN	I	Subcode serial data input from the digital signal processor
149	VSS	—	Ground terminal (digital system)
150	SCOR	I	Sucode sync (S0+S1) detection signal input from the digital signal processor
151	WFCK	I	Write frame clock signal input from the digital signal processor
152	VDD5V	—	Power supply terminal (+5V)
153	XRCI	I	RAM overflow signal input terminal Not used
154	VDDS	—	Power supply terminal (+5V) (digital system)
155	C2PO	I	C2 pointer signal input from the digital signal processor
156	VDD	—	Power supply terminal (+3.3V) (digital system)
157	DBCK	O	Bit clock signal (2.8224 MHz) output terminal Not used
158	BCLK	I	Bit clock signal (2.8224 MHz) input from the digital signal processor
159	DDAT	O	PCM data output terminal Not used
160	MDAT	I	Serial data input from the digital signal processor
161	VSS	—	Ground terminal (digital system)
162	DLRC	O	L/R sampling clock signal (44.1 kHz) output terminal Not used
163	LRCK	I	L/R sampling clock signal (44.1 kHz) input from the digital signal processor
164	XRST	I	Reset signal input from the mechanism controller “L”: reset
165	IFS0	I	Interface selection signal input terminal Fixed at “L” in this set
166	IFS1	I	Interface selection signal input terminal Fixed at “H” in this set

Pin No.	Pin Name	I/O	Description
167	XTAL	I	33.8688 MHz clock signal input terminal
168	VSS	—	Ground terminal (digital system)
169	XTL2	O	System clock output terminal (33.8688 MHz)
170	XTL1	I	System clock input terminal (33.8688 MHz)
171	VDD	—	Power supply terminal (+3.3V) (digital system)
172 to 176	D0 to D4	I/O	Two-way data bus with the mechanism controller

DMB08 BOARD IC801 CXD2753R (DSD DECODER)

Pin No.	Pin Name	I/O	Description
1	VSCA0	—	Ground terminal (for core)
2	XMSLAT	I	Serial data latch pulse signal input from the mechanism controller
3	MSCK	I	Serial data transfer clock signal input from the mechanism controller
4	MSDATI	I	Serial data input from the mechanism controller
5	VDCA0	—	Power supply terminal (+2.5V) (for core)
6	MSDATO	O	Serial data output to the mechanism controller
7	MSREADY	O	Ready signal output to the mechanism controller “L”: ready
8	XMSDOE	O	Serial data output enable signal output terminal Not used
9	XRST	I	Reset signal input from the mechanism controller “L”: reset
10	SMUTE	I	Soft muting on/off control signal input from the mechanism controller “H”: muting on
11	MCKI	I	Master clock signal (33.8688 MHz) input
12	VSIOA0	—	Ground terminal (for I/O)
13	EXCKO1	O	Master clock signal (33.8688 MHz) output to the digital audio processor
14	EXCKO2	O	External clock 2 signal output terminal Not used
15	LRCK	O	L/R sampling clock signal (44.1kHz) output terminal Not used
16	F75HZ	O	Not used
17	VDIOA0	—	Power supply terminal (+3.3V) (for I/O)
18 to 25	MNT0 to MNT7	O	Monitor signal output terminal Not used
26	TCK	I	Clock signal input from the DVD system processor
27	TDI	I	Serial data input from the DVD system processor
28	VSCA1	—	Ground terminal (for core)
29	TDO	O	Serial data output to the DVD system processor
30	TMS	I	TMS signal input from the DVD system processor
31	TRST	I	Reset signal input from the DVD system processor “L”: reset
32 to 34	TEST1 to TEST3	I	Input terminal for the test (normally: fixed at “L”)
35	VDCA1	—	Power supply terminal (+2.5V) (for core)
36	UBIT	O	Not used
37	XBIT	O	Not used
38 to 41	SUPDT0 to SUPDT3	O	Supplementary data output terminal Not used
42	VSIOA1	—	Ground terminal (for I/O)
43, 44	SUPDT4, SUPDT5	O	Supplementary data output terminal Not used
45	VDIOA1	—	Power supply terminal (+3.3V) (for I/O)
46, 47	SUPDT6, SUPDT7	O	Supplementary data output terminal Not used
48	SUPEN	O	Supplementary data enable signal output terminal Not used
49	VSCA2	—	Ground terminal (for core)
50	NC	O	Not used
51, 52	TEST4, TEST5	I	Input terminal for the test (normally: fixed at “L”)
53	NC	O	Not used
54	VDCA2	—	Power supply terminal (+2.5V) (for core)
55, 56	NC	O	Not used
57	BCKASL	I	Input/output selection signal input terminal of bit clock signal (2.8224 MHz) for DSD data output “L”: input (slave), “H”: output (master) Fixed at “H” in this set
58	VSDSD0	—	Ground terminal (for DSD data output)
59	BCKAI	I	Bit clock signal (2.8224 MHz) input terminal for DSD data output Not used
60	BCKAO	O	Bit clock signal (2.8224 MHz) output terminal for DSD data output
61	PHREFI	I	Bit clock signal (2.8224 MHz) input terminal for DSD data output Not used

Pin No.	Pin Name	I/O	Description
62	PHREFO	O	Bit clock signal (2.8224 MHz) output to the digital audio processor Not used
63	ZDFL	O	Front L-ch Zero data flag detection signal output terminal Not used
64	DSAL	O	Front L-ch DSD data output to the digital audio processor
65	ZDFR	O	Front R-ch Zero data flag detection signal output terminal Not used
66	DSAR	O	Front R-ch DSD data output to the digital audio processor
67	VDDSD0	—	Power supply terminal (+3.3V) (for DSD data output)
68	ZDFC	O	Center zero data flag detection signal output terminal Not used
69	DSAC	O	Center DSD data output to the digital audio processor
70	ZDFLFE	O	Woofer zero data flag detection signal output terminal Not used
71	DSALFE	O	Woofer DSD data output to the digital audio processor
72	VSDSD1	—	Ground terminal (for DSD data output)
73	ZDFLS	O	Rear L-ch zero data flag detection signal output terminal Not used
74	DSALS	O	Rear L-ch DSD data output to the digital audio processor
75	ZDFRS	O	Rear R-ch zero data flag detection signal output terminal Not used
76	DSARS	O	Rear R-ch DSD data output to the digital audio processor
77	VDDSD	—	Power supply terminal (+3.3V) (For DSD data output)
78, 79	IOUT0, IOUT1	O	Data output terminal for IEEE 1394 link chip interface Not used
80	VSCB0	—	Ground terminal (for core)
81, 82	IOUT2, IOUT3	O	Data output terminal for IEEE 1394 link chip interface Not used
83	VDCB0	—	Power supply terminal (+2.5V) (for core)
84, 85	IOUT4, IOUT5	O	Data output terminal for IEEE 1394 link chip interface Not used
86	VSIOB0	—	Ground terminal (for I/O)
87	IANCO	O	Transmission information data output terminal for IEEE 1394 link chip interface Not used
88	IFULL	I	Data transmission hold request signal input terminal for IEEE 1394 link chip interface Not used
89	IEMPTY	I	High speed transmission request signal input terminal for IEEE 1394 link chip interface Not used
90	VDIOB0	—	Power supply terminal (+3.3V) (for I/O)
91	IFRM	O	Frame reference signal output terminal for IEEE 1394 link chip interface Not used
92	IOUTE	O	Enable signal output terminal for IEEE 1394 link chip interface Not used
93	IBCK	O	Data transmission clock signal output terminal for IEEE 1394 link chip interface Not used
94	VSCB1	—	Ground terminal (for core)
95	IERR	I	Not used
96	IANCI	I	Not used
97	IPLAN	I	Not used
98	IHOLD	O	Not used
99	VDCB1	—	Power supply terminal (+2.5V) (for core)
100	IVLD	I	Not used
101 to 105	IDIN0 to IDIN4	I	Not used
106	VSIOB1	—	Ground terminal (for I/O)
107 to 109	IDIN5 to IDIN7	I	Not used
110	VDIOB1	—	Power supply terminal (+3.3V) (for I/O)
111 to 114	WAD0 to WAD3	I	External A/D data input terminal for PSP physical disc mark detection Not used
115	TESTI	I	Input terminal for the test (normally: fixed at “L”)
116	VSCB2	—	Ground terminal (for core)

Pin No.	Pin Name	I/O	Description
117 to 120	WAD4 to WAD7	I	External A/D data input terminal for PSP physical disc mark detection Not used
121	VDCB2	—	Power supply terminal (+2.5V) (for core)
122	WRFD	I	Not used
123	WCK	I	Operation clock signal input for PSP physical disc mark detection from the DVD decoder
124, 125	WAVDD0, WAVDD1	—	A/D power supply terminal (+2.5V) (for PSP physical disc mark detection)
126	WARFI	I	Analog RF signal input for PSP physical disc mark detection from the DVD/CD RF amplifier
127	WAVRB	I	A/D bottom reference terminal for PSP physical disc mark detection
128, 129	WAVSS0, WAVSS1	—	A/D ground terminal (for PSP physical disc mark detection)
130	VSIO	—	Ground terminal (for I/O)
131 to 134	DQ7 to DQ4	I/O	Two-way data bus with the SD-RAM
135	VDIOA2	—	Power supply terminal (+3.3V) (for I/O)
136 to 139	DQ3 to DQ0	I/O	Two-way data bus with the SD-RAM
140	VSIOA3	—	Ground terminal (for I/O)
141	DCLK	O	Clock signal output to the SD-RAM
142	DCKE	O	Clock enable signal output to the SD-RAM
143	XWE	O	Write enable signal output to the SD-RAM
144	XCAS	O	Column address strobe signal output to the SD-RAM
145	XRAS	O	Row address strobe signal output to the SD-RAM
146	VDIOA3	—	Power supply terminal (+3.3V) (for I/O)
147	NC	O	Not used
148, 149	A11, A10	O	Address signal output to the SD-RAM
150	VSCA3	—	Ground terminal (for core)
151, 152	A9, A8	O	Address signal output to the SD-RAM
153	VDCA3	—	Power supply terminal (+2.5V) (for core)
154 to 157	A7 to A4	O	Address signal output to the SD-RAM
158	VSIOA4	—	Ground terminal (for I/O)
159 to 162	A3 to A0	O	Address signal output to the SD-RAM
163	VDIOA4	—	Power supply terminal (+3.3V) (for I/O)
164	XSRQ	O	Serial data request signal output to the DVD decoder
165	XSHD	I	Header flag signal input from the DVD decoder
166	SDCK	I	Serial data transfer clock signal input from the DVD decoder
167	XSAK	I	Serial data effect flag signal input from the DVD decoder
168	SDEF	I	Error flag signal input from the DVD decoder
169 to 176	SD0 to SD7	I	Stream data signal input from the DVD decoder

DMB08 BOARD IC901 uPD703033BYGF-M59-3BA-A (SYSTEM CONTROLLER)

Pin No.	Pin Name	I/O	Description
1	DAMP-DATA	O	Serial data output to the stream processors
2	DAMP-CLK	O	Serial data transfer clock signal output to the stream processors
3	I2C-DATA	I/O	Communication data bus with the DVD system processor and mechanism controller
4	CQ-RST	O	Reset signal output to the DVD system processor "L": reset
5	I2C-CLK	I/O	Communication data reading clock signal input or transfer clock signal output with the DVD system processor and mechanism controller
6	DSP-DO	I	Write data input from the audio digital signal processor
7	DIG-DI	O	Read data output to the digital audio interface IC, audio digital signal processor and D/A converter
8	DIG-CLK	O	Clock signal output to the digital audio interface IC, audio digital signal processor and D/A converter
9	EVDD	—	Power supply terminal (+5V)
10	EVSS	—	Ground terminal
11	P-PWM	O	PWM voltage control signal output
12	DSP-RST	O	Reset signal output to the audio digital signal processor "L": reset
13	DSP-PM	O	PLL reset signal output to the audio digital signal processor "L": reset
14	DSP-CS	O	Chip select signal output to the audio digital signal processor
15	DSP-HACN	I	Acknowledge signal input from to the audio digital signal processor
16	DSP-BST	O	Boot strap signal output to the audio digital signal processor
17	DSP-GP9	I	Decode signal input from to the audio digital signal processor
18	DIR-ZERO	I	Audio serial data input from the digital audio interface IC
19	DIR-ERR	I	PLL lock error and data error flag input from the digital audio interface IC
20	DIR-CE	O	Chip enable signal output to the digital audio interface IC
21	VPP	—	Power supply terminal (for programming) Not used
22	DIR-XST	I	Source clock switching monitor input from the digital audio interface IC
23	DIR-AD	O	Muting signal output
24	DIR-XMODE	O	System reset signal output to the digital audio interface IC "L": reset
25	DIRDO	I	Write data input from the digital audio interface IC
26	DAMP-RST	O	Reset signal output to the stream processors "L": reset
27	GP12	—	Not used (fixed at "L")
28	DAMP-MUTEN	O	Muting on/off control signal output to the stream processors "H": muting on
29	CS1	O	Chip select signal output to the stream processor (for front L-ch and R-ch)
30	CS2	O	Chip select signal output to the stream processor (for center and woofer)
31	CS3	O	Chip select signal output to the stream processor (for rear L-ch and R-ch)
32	DAC-CS	O	Chip select signal output to the D/A converter
33	AD-RST	O	Reset signal output to the A/D converter and D/A converter "L": reset
34	RESET	I	System reset signal input "L": reset For several hundreds msec. after the power supply rises, "L" is input, then it changes to "H"
35	XT1	I	Sub system clock input terminal Not used (open)
36	XT2	O	Sub system clock output terminal Not used (open)
37	REGC	—	Capacitance connection terminal
38	X2	O	Main system clock output terminal (20 MHz)
39	X1	I	Main system clock input terminal (20 MHz)
40	VSS	—	Ground terminal
41	VDD	—	Power supply terminal (+5V)

Pin No.	Pin Name	I/O	Description
42	CLKOUT	O	Clock signal output terminal Not used (open)
43	DIP-RST	O	Reset signal output to the power drivers "L": reset
44	DIP-OCP	I	Protect signal input from the over load detection circuit
45	ST-POWER	O	System power on/off control signal output "H": power on
46	HP-MUTE	O	Headphone muting on/off control signal output "L": muting on
47	AU-MUTE	O	Audio line muting on/off control signal output "L": muting on
48	VIDEO-MUTE	O	Video muting signal output
49	PROG SW	I	SCAN SELECT switch input terminal "L": SELECTABLE, "H": INTERLACE
50	FM750	O	Power supply for tuner pack on/off control signal output
51	TUNED	I	Tuning detection signal input from the tuner unit "L": tuned
52	TUN-DI	I	Serial data input from the tuner unit
53	TUN-CE	O	Chip enable signal output to the tuner unit
54	TUN-DO	O	Serial data output to the tuner unit
55	TUN-CLK	O	Serial data transfer clock signal output to the tuner unit
56	FL-MUTE	O	Reset signal output to the fluorescent indicator tube driver "L": reset
57	FL-CLK	O	Serial data transfer clock signal output to the fluorescent indicator tube driver
58	BVDD	—	Power supply terminal (+5V) (for bus interface)
59	BVSS	—	Ground terminal (for bus interface)
60	FL-DATA	O	Serial data output to the fluorescent indicator tube driver
61	FL-CS	O	Chip select signal output to the fluorescent indicator tube driver "L" active
62	LED-CS	—	Not used
63	LED-CLR	—	Not used
64	HPSW	I	Connection detection signal input of the headphone jack "L": no connection, "H": headphone connected
65	DF-RST	O	Reset signal output to the digital audio processor "L": reset
66	PCON3	O	Standby LED control signal output
67	SW2	I	Chucking detection switch signal input
68	F-IN	O	Motor drive signal output
69	R-IN	O	Motor drive signal output
70	DVD_SEL	O	DVD select signal output
71, 72	NC	—	Not used
73	RGB_SEL	O	RGB select signal output
74	AVDD	—	Power supply terminal (+5V) (analog system)
75	AVSS	—	Ground terminal (analog system)
76	AVREF	—	Reference voltage (+5V) input terminal (analog system)
77	NC	—	Not used (fixed at "L")
78	SW1	I	Loading out detection switch signal input
79	SW3	I	Trigger detection switch signal input
80	AREA1	I	Destination setting terminal
81	SEN2	I	Disc loading detection signal input
82 to 84	KEY0 to KEY2	I	Key input terminal (A/D input)
85, 86	NC	—	Not used (fixed at "L")
87	MODEL	I	Model setting terminal
88	RDS-DATA	I	RDS serial data input from the RDS decoder
89	DVD-POWER	O	DVD power on/off control signal output "H": power on
90	STOP	I	System power stop signal input
91	POWER-SW	I	AC power detection signal input

Pin No.	Pin Name	I/O	Description
92	SIRCS	I	Remote control signal input
93	WAKE	I	System wake up signal input by pressing a key on the front panel or remote commander or disc insert detect switch
94	RDS-CLK	I	RDS serial data transfer clock signal input from the RDS decoder
95	AV-SEL0	O	Audio/video selection signal output
96	AV-SEL1	O	Audio/video selection signal output
97	DF-SW	O	selection signal output to the digital audio processor
98	DF-SYNC	O	Sync signal output to the digital audio processor
99, 100	NC	—	Not used (fixed at “L”)

MEMO

HCD-FR1/FR8/FR9

SONY

US Model
HCD-FR1/FR8/FR9
Canadian Model
HCD-FR1

SERVICE MANUAL

Ver. 1.7 2005.07

SUPPLEMENT-3

Subject: Attention at the time of a TACTILE SWITCH replacement

9-879-011-83

SERVICING NOTE

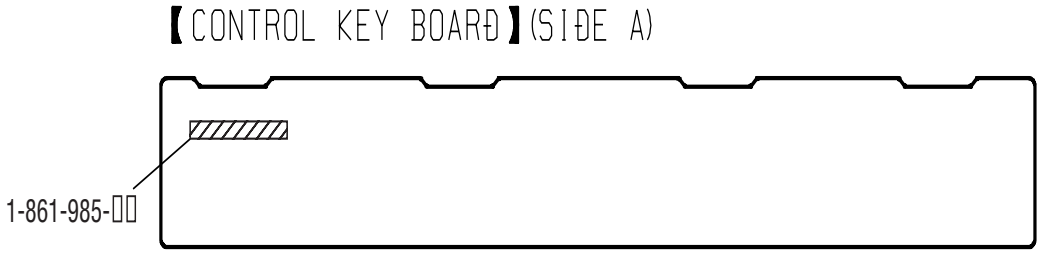
The part numbers of the TACTILE SWITCH on the CONTROL KEY board, DISC KEY board and PW KEY board are depended on a suffix of each board. Please select a TACTILE SWITCH after it refers at the time of a TACTILE SWITCH replacement.
This section describe the response table of a suffix on each board and TACTILE SWITCH.
So,it describe the method for differentiating a suffix of each board.

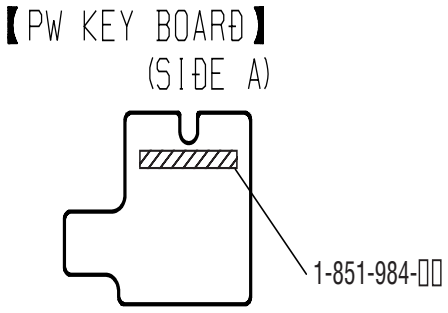
• RESPONSE TABLE

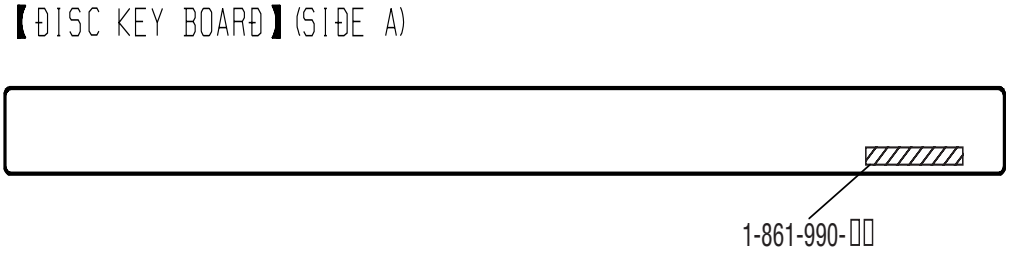
a suffix of a board (on CONTROL KEY board, DISC KEY board, PW KEY board)	Part No. for TACTILE SWITCH
-11,-12	1-771-884-31
-13,-14	1-786-763-11

CONTROL KEY board, DISC KEY board and PW KEY board changed
Part number of printed wiring board changed to suffix-12,-13,-14 from suffix-11 in order.

• How to distinguish
Location of part number on changed printed wiring board.







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REVISION HISTORY

Clicking the version allows you to jump to the revised page.
Also, clicking the version at the upper right on the revised page allows you to jump to the next revised page.

Ver.	Date	Description of Revision
1.0	2004.06	New
1.1	2004.07	Addition of TEST MODE and ELECTRICAL ADJUSTMENT with SUPPLEMENT-1 (9-879-011-81)
1.2	2004.08	Voltages and Signal path are added into SCHEMATIC DIAGRAM. Addition of DISASSEMBLY, ASSEMBLY, Block Diagram, IC Block Diagrams and IC Pin Function Description with SUPPLEMENT-2 (9-879-011-82)
1.3	2004.09	Addition of Ref. No. 114 (SWITCHING REGULATOR) (SPM-04100)
1.4	2004.11	Change into RF board suffix 12 from suffix 11 (SPM-04111)
1.5	2004.12	Addition of IC902, IC906 and circumference electrical parts on DMB08 board (SPM-04128)
1.6	2005.01	Change to 14 from 13 of a suffix of DMB08 board (SPM-05002)
1.7	2005.07	SUPPLEMENT-3:Attention at a time of a TACTILE SWITCH replacement (SPM-05047)